Oil, Paint and Drug Reporter.

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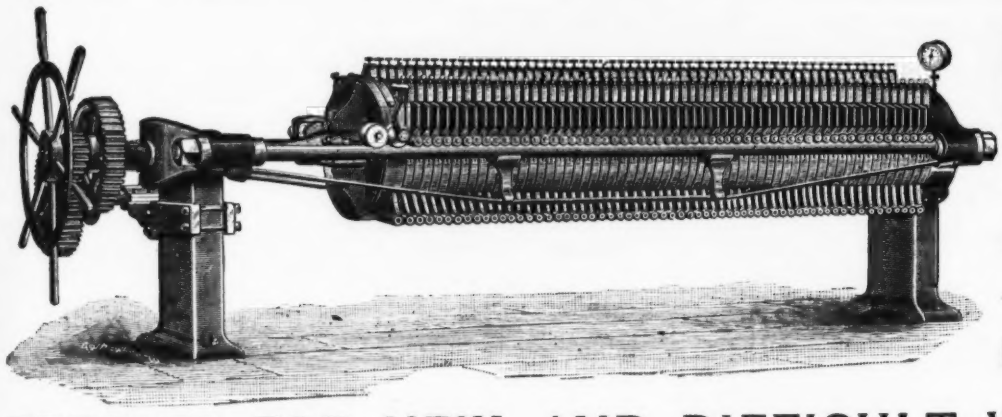

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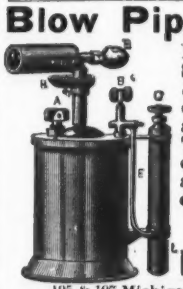

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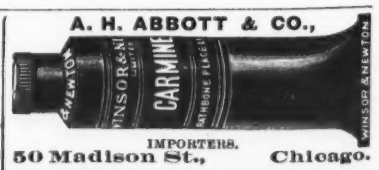

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JOHN F. RIDAY,
General Manager Advertising Departm't.

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WEDNESDAY, JULY 31, 1889.

LEADING TOPICS THIS WEEK.

A suggestion to corner quinine.
Anise oil advancing.
The decline in balsam copaiba.
Uncertainty about extracts.
An exploded brimstone tale.
The trade in mastic,
Prospects of a glass workers' strike.
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WEEKLY REVIEW.

The money market has been steady during the past week. The rate for call loans has ranged from 4% to 2% and closes at 2%. Time loans rule 4% for 60 to 90 days and 5% for 4 to 6 months.

The supply of commercial paper is good and the demand has been fair. We quote 60 to 90 days indorsed bills receivable at 4½@5, first class four months commission house names at 5½@6 and good single names (jobbers) having four to six months to run at 5½@6½. Following are the rates of exchange on New York: Savannah, buying ⅛ discount, selling par@⅛ premium Charleston, buying par, selling ⅛ premium. New Orleans commercial, 25c per 1,000 premium @ par; bank at $1 per $1,000 premium; St. Louis, 75c per $1,000 premium; Chicago, 25c per $1,000 discount. Sterling exchange is dull.

Sterling, 60 days, nominal	$4 86@4 86½
sight, nominal	4 87½ @4 88
60 days, actual	4 85¼@4 85¾
sight, actual	4 87 @4 87¼
Cable transfers	4 87¼@4 87½
Commercial, 60 days	4 84¼@4 84½
Paris 60 days	5 18¾@5 18¼
sight	5 16½@5 15⅝
com., 60 days	5 20⅝@5 20
com., sight	5 18⅛@5 17½
Antwerp, 60 days	5 21¼@5 20⅝
Swiss, 60 days	5 19⅝@5 18¾
sight	5 16⅞@5 16¼
Reich marks (4) 60 days	95 @95⅛
(4) sight	95⅛@95⅛
(4) nom., 60 days	94¾@94⅞
(4) com., sight	95⅛@95¼
Guilders, 60 days	40 3-16@40¼
sight	40⅜@40 7-16
com., 60 days	40 3-16@40¼
com., sight	40¼@40 5-16
Copenhagen, Stockholm and Christiana, Krona, 60 days	26¾@26⅞
sight	27 @27⅛

A SUGGESTION FOR A CORNER IN QUININE.

In a recent issue of the London *Financial News*, a writer signing himself "common sense" gives some "pointers" to speculators for cornering quinine, and make an enormous profit on the venture. His suggestions are similar to those that have been repeatedly advanced by believers in the future of quinine and which have been acted upon, to their sorrow, by numerous buyers here and abroad. His confidence in the recuperative powers of the quinine market are based upon the apparently strong statistical position of the bark, and he proceeds to compare the imports into London for the first eight months of the crop year with those of the corresponding period four years ago, to bear out his reasoning. He finds a decrease of 3,300,000 pounds in the receipts, and then turning to the exports discovers an increase of 6,834 hundredweights in the exports for the first five months of 1889 compared with those of the same months in 1886. He goes on to say:

"Thus we see a decrease in the imports and an increase in the exports; yet, in the face of this, quinine has dropped from 3s. 6d. to 1s. per ounce, instead of increasing or, at least, maintaining its position. Why is this? Because bear sellers, who are almost exclusively German manufacturers, have been selling to an enormous extent for forward delivery; but when these deliveries became due, by offering a small quantity on the spot at a low rate, they have been able to buy back their own contracts at a considerable reduction on the price at which they sold. This has been going on for a considerable time, until now they have brought quinine to its present absurdly low quotation, viz., 1s. per oz., at which price it does not seem possible that it can pay; and this view is borne out by the fact that in some contracts made for July delivery, with the special stipulation that the quinine was to be delivered 'direct from the works' within the previous three or four months, the goods have been tendered; but when the buyers demand proof of the recent delivery from the manufactory, they have, up to the present, been unable to obtain it.

"The quinine sold for delivery in August next (apart from the normal consumption, which is continually increasing) is over a quarter of a million ounces; so that if buyers will only demand delivery of the goods, instead of re-selling them at a loss to the very persons they bought them from, the bears would be entirely at their mercy.

"Many people seem afraid of the present stock of cinchona in London; but on May 31, 1885, the stock was 76,500 packages against 65,700 on May 31 in the present year, thus showing another falling off to the extent of over 10,000 packages; and it must be mentioned that a great deal of the present stock is absolute rubbish, the sale of which would not even realize the amount of the dock charges incurred upon it, without reckoning freight and the original cost of the goods.

"Judging from these facts, it would seem that a capitalist with a moderate amount of capital—say, about £100,000—could entirely control the market, and send up the price of quinine 300 or 400 per cent. in a very short time, as the supply of cinchona is limited, and it requires from four to five years for new trees to arrive at maturity, thus distinguishing it from mines and other undertakings, the production from which is mostly a matter of labor and money, any amount of which will not materially hasten the growth of a cinchona tree."

From the position he assumes his reasoning is unquestionably apt, but like many others in whose foot steps he follows, he fails to take into consideration certain things which, if incorporated in his statements, would rob their logic of much of its force. He entirely overlooks Java bark as a factor in the situation, and is seemingly ignorant of the important position assumed of late by the Amsterdam market. Nor does he mention the disposition to be made of the surplus stock of quinine in the London and Continental markets and in the United States, the control of which would also be necessary to enable the "capitalist with about £100,000" to give effect to his "corner,"

There is no doubt that the receipts of Ceylon cinchona are decreasing and that this fact is beginning to have an effect upon the quinine market, but the time has not yet arrived when any capitalist or combination of capitalists, outside of the manufacturers, can obtain a sufficiently strong control of the market to effect a material and permanent improvement in market values. Before that time the Java plantations must cease to play as important a part as at present in the bark market, the surplus stock of quinine must be considerably reduced and production must be regulated so as to more closely accord with the requirements of consumption. In the meantime the often talked of syndicate of the European manufacturers may give the capitalist with £100,000 and some smaller investors, a chance to make a good thing out of quinine if they are quick at reading the signs of an approaching combination of the makers.

ANISE OIL ADVANCING.

For several months past the market for anise oil has been in a dull and somewhat depressed condition, buyers, seemingly, showing little or no interest in it. Within the last two weeks, however, there has been quite a large movement in the article, and prices have gradually advanced from about a dollar and forty-eight cents to the neighborhood of a dollar and sixty cents per pound, and at the present time the tendency of the market is still upward. The principal buyers have been large dealers, who were actuated by a desire to concentrate the stock, in which they have been to a certain extent successful. Through the recent transactions, the bulk of the available supply, we are informed, has passed into the control of three dealers, and the fact that at least one of these has fixed a price on his holdings much above the figures last paid by him, would indicate that there will be no effort made to further concentrate the supply, and that the chief holders will wait until the small outside lots have passed into consumption to obtain the benefit that may be derived from their control of the market.

The basis of the recent speculative movement, and the subsequent advance in prices, is, according to report, the probability of a stoppage of shipments to this market for a time, owing to a disagreement between the producers in China and the receivers here. "For ways that are dark and tricks that are vain" the average native Chinese merchant seems to be as justly celebrated as his prototype, immortalized by a popular poet, and the essential oil dealers of this country have, it is stated, resolved, after an unpleasant experience of his capabilities in this direction, to put a check upon his trickery. Taught by his own nature, perhaps, to suspect the honesty of those with whom he has dealings, the Chinese manufacturer of anise oil demands payment for his goods before shipment, and this, although a hardship upon American dealers, has been the practice in the trade up to the present time. The possibilities for fraud on the part of the shippers have been great, but we do not remember hearing until recently that advantage had been taken of them.

Some of the local dealers now complain that late receipts of anise oil from China have been more or less adulterated and unsaleable here. Being, practically, without recourse against the Chinese merchants practicing the alleged fraud, these dealers have determined to send them no further orders, expecting by this course to compel the Chinamen to so far change their methods of doing business as to give American buyers an opportunity to reject the oil after arrival here in case it is not up to the standard, or make some arrangement by which the dealers can recover through agents of Chinese houses here, the amount paid for the oil before shipment.

Some doubt is thrown on this story by people familiar with the trade, the intimation being made that it is given with a view to strengthen the position of the principal holders, and enable them to get high prices through the fears of buyers of a famine in the oil. A gentleman of considerable prominence in this line of business asserted that in all his experience he had no personal knowledge that adulteration of this oil had been practiced to any extent and intimated that plenty of anise oil would be forthcoming, notwithstanding the threathened boycott.

Without reference to either of these views on the Chinese question, there can be little doubt that the position of anise oil at the present time is a very strong one, and that consumers will find it to their interest to watch the market closely during the next few weeks. There have been no arrivals at this port for more than a month, and so far as we can learn there is nothing on the way to arrive sooner than the end of August or the beginning of September, if then.

THE DECLINE IN BALSAM COPAIBA.

A few months ago the market was almost bare of supplies of balsam copaiba and this was a condition peculiar not alone to the New York market but equally pronounced in London and Hamburg. For some reason the crop of copaiba last year was not marketed by the South American natives, or, at least, only a small portion was forwarded to the distributing points. The result was that in the winter and early spring months there was little or nothing to be had from first hands either here or abroad, while the stock held by jobbers was inadequate to supply a normal demand. Prices advanced rapidly and, as there was no prospect of increased supplies, predictions were made that values would ascend to extremely high figures.

Within the last few weeks there has been a radical change in the situation. The prices, heretofore prevailing in this market and in Europe, have stimulated the natives to great activity in gathering and forwarding the balsam, and stocks have accumulated here so rapidly, in consequence, that at the present time there are nearly forty thousand pounds in first hands while the European markets are, we understand, equally well supplied. With increased receipt came a shrinkage of market values, amounting, inside of two weeks, to about twenty per cent, and at the present time the tendency is still downward. The depression is not altogether the result of the large arrivals, as with an ordinary demand the present stock would not be considered excessive. Jobbers are holding off in the expectations of inducing importers to accept lower figurers, and in the meantime are quoting for small lots prices about on a parity with those at which first hands are willing to do business. It is also hinted that there is on foot a movement the object of which is to concentrate the stock, and that the apparent weakness of the market is due to bearish influences exerted by the alleged speculative operators.

An effect of the recent high quotations for true balsam copaiba is the increased popularity of the so-called Hamburg variety, the comparative cheapness of which appears to be its chief recommendation to buyers, although there are some who claim for it properties equal or very little inferior to those of the true balsam. The fact that the imports of the Hamburg stuff have materially decreased of late, might indicate that its consumption is much smaller than formerly, and it is even asserted that such is the case. However, it is learned upon very good authority that the adulterant is now imported separately and the mixing done here, as certain people in this country have learned the art of sophisticating the true with the false balsam

so that the resultant compound is equal in appearance and otherwise to the stuff brought from Hamburg, and does not cost the dealer as much. In handling this compound the principal jobbers claimed that no deception is practiced on the buyer, but that he is given to understand in plain terms that the article called Hamburg balsam is not the true drug and that he buys it upon his own responsibility. Unfortunately the effect of this caution does not extend as far as the consumer, and unless the compound actually possesses the virtue attributed to it, its sale under present circumstances might be classed under the head of questionable transactions.

AN EXPLODED BRIMSTONE TALE.

A wild story has been circulated in print about the brimstone market to the effect that the Japanese product is being sold here and at Philadelphia for seven dollars a ton, and this information is followed by a vivid picture of the future demoralization of the home market. Importers of and dealers in brimstone are fully cognizant of passing events, but the remarkable piece of intelligence noted above rather surprised them and aroused a curiosity to learn the source of such valuable (?) information. It appears that a mixed substance found in the craters of extinct volcanoes in Japan, contains about thirty per cent. of sulphur and it is this material which commands a sale in this market at the figure named. It is by no means a new article of commerce, as cargoes of it have been sold here in previous years when ocean freights allowed transportation to American markets. San Francisco is the chief port of entry, but the periodical arrivals have excited no special interest, as they are very uncertain and have no bearing on the brimstone market. The mixture can only be brought here when sailing vessels are without other freight, as the rate from ports in Japan is seven dollars per ton. About 1,500 tons have landed during the past six months and been taken by chemical manufacturers. Regular grades of Japanese brimstone command near the price of the Sicily product, but the comparatively low prices now ruling have discouraged shipments from Japan owing to the relatively higher freight rates. Buyers have always hesitated to pin faith on arrivals of the Japanese article, as the long, uncertain voyage by sail is not to be depended upon, according to recent history, and better prices are consequently paid for Sicily brimstone and prompt delivery.

UNCERTAINTY ABOUT EXTRACTS.

Representatives of the combination of five manufacturers of logwood extracts, whose output is four-fifths of the entire production, deny emphatically that the agreement on prices for the raw material and finished product has been suspended or entirely withdrawn, as stated in these columns two weeks ago. They were just as certain some months ago that no agreement or understanding existed when it was in full swing and has been so, for about seventeen months. However, the REPORTER has no desire to dispute the statements of those directly interested in the agreement, but there are other manufacturers who claim to have trustworthy evidence that the combination, if such it can be called, recently ceased to exist and that the market is of a go-as you-please character, with prices being cut in all directions.

It is difficult to harmonize the conflicting statements, in fact they cannot be while the fierce competitive struggle is one of the chief characteristics of trade. There may be some method in the madness to obtain the raw material at a cheaper rate, but the policy will not be very profitable when it is necessary to demoralize the extract market periodically and lose customers, in order to break prices on logwood.

The extract makers can avoid this annoyance by having an understanding among themselves to cover all points in dispute. Call it a combination if you will but let the public know that the salvation of the industry necessitates just such measures. Then they could dictate prices for stick wood with the full knowledge that importers would be compelled to accept proffered terms or take the cargoes to another country, the latter course being very improbable. Consumers of extracts could not reasonably object to combination prices, when they represent a fair manufacturer's profit and are based on comparatively low figures for wood, which would be made possible under the new arrangement. Have the compact signed by the nine manufacturers, including the recent accession to the ranks, and provide a penalty for all possible infractions of the agreement.

The trade will never be improved and profits increased by the unwise course at present pursued. No benefit can be derived from a display of bitter jealous feelings and threats "to go one better," when the whole trade is suffering from over-production and low prices. The REPORTER would like to see the business put on a better basis, and whether the disputed point is truth or fiction, other efforts should be made to harmonize matters and inaugurate uniform prices. We believe this will be done.

THE TRADE IN MASTIC.

An effort has been made to "boom" mastic, on the strength of new regulations that have been put in force by the Turkish Government, with the view of improving the industry and realizing higher prices. Certain prohibitions are announced, including the offering for sale of impure, yellow or black mastic, also the mixing with dust or bark or other adulterants. The commercial world is now promised pure white mastic, free from all foreign substances. for which better prices are expected.

Mastic is a gum of very small importance in this market, the total consumption being placed at only about 2,000 pounds per annum, a very small proportion of which is used in certain proprietary medicines, and the balance in the manufacture of varnish for special purposes. How the promoters of the attempted "boom" expected to be paid for their trouble cannot be explained, as the quantity handled is comparatively insignificant and consumption is on the decline as cheaper substitutes are gradually supplanting mastic in the varnish line. Sandrac is said to be a formidable rival, and if purchasers are guided by values, the latter would be favored, as it commands twenty-five cents against seventy and seventy-five cents for mastic which has fluctuated between that figure and fifty cents during the past two years. If the Government at Constantinople desires to encourage consumption, action ought to be taken in the direction of lower values, as the relatively high price has prevented the distribution in this country from enlarging. If it were indispensable for certain extensive uses there would be some excuse for the tendency to advance at the source of supply, but when the outlet is uncertain and the industry is threatened with dry rot, every effort should be made to compete with substitutes, and success in that direction will necessitate a much larger production and more satisfaction in consequence on the Turkish island where the gum is gathered.

PROSPECTS OF A GLASS WORKERS' STRIKE.

At this time of the year we may reasonably look for the rumor that a strike among the glass workers is impending because the manufacturers want to reduce wages while the men want an increase. We are not disappointed this year for we find the time honored intimations of trouble duly set forth in the Pittsburg papers, with all the accompanying details of what the workers say and what are the apparent intentions of the employers. It may safely be said that there is about as much probability of a general strike of the glass workers next fall as there is of a general shut down of all the factories for the next fire because the results of the last season were not satisfactory from a financial point of view. Either of these contingencies might prove a good thing for the trade, considering the extensive production which is promised when the factories go into blast, but neither the workers nor their employers are particularly anxious that the present shut down should be unnecessarily prolonged.

There is no reason, so far as we can see, to anticipate trouble of the character discussed in the Pittsburg reports. It is true that the committees representing the manufacturers and their employes have had a conference which resulted in nothing because the former asked for a reduction in wages amounting to ten per cent. which they afterwards decreased to five per cent., while the workers demanded increased compensation for their services for the coming season. If we are not mistaken a similar deadlock for similar reasons has occurred in former years at the first sitting of the wage committees, and that at subsequent meetings an amicable understanding has been arrived at through the concessions made by both sides, whereby the men have gone to work on the same scale of wages as they received for the preceeding fire. These demands and counter-demands make up a little farce which is performed every season until the result of the preliminary conferences of the wage committees has come to be a by-word in the trade. As the committees are to meet again next month it may be assumed in the absence of any satisfactory knowledge to the contrary that the precedent will be observed and that conclusions will be reached acceptable to both parties.

PRIME VS. CHOICE COTTON OILS.

The terms "prime" and "choice," don't seem to be well understood in cotton oil circles, although used for years to denote the quality of offerings. The present season being characterized by an unusual variety of grades, and strictly prime oil being in limited supply for months, there has been a strong tendency for wrong classification. For instance, "prime for the season" is a favorite term on the Produce Exchange, and it has been claimed within the past few days that forty six cents would buy the best refined summer oil on the market. Such a statement is very misleading and far from the actual facts, when the "best" or "choice" grade is held at fifty and fifty-two cents. Oil is called prime when the quality comes up to the requirements of the Exchange rules and can pass the oil committee withou question, but the term "seasonable prime" can have no significance unless it meets all the conditions of prime quality as defined by the rules referred to. The word "seasonable" may be attached as an apology for calling the oil prime and in the hope of realizing a better figure than could be otherwise obtained, but its use gives out a suspicion that the quality is not straight. We have heard it frequently asserted that there is no difference between prime and choice oils—that a prime grade should be choice and that buyers expect to receive choice oil when contracting for prime. According to the rules governing the trade, crude cotton oil to pass as prime must be made from decorticated seed, and must be sweet in flavor and odor and free from water and settlings. Summer yellow oil has likewise to be free from water and settlings, sweet in flavor and odor and of straw color, not reddish. A better quality than the above is termed "choice" and represents the first expression of oil from the seed. When a fancy grade of oil is wanted by crushers they reserve a tank for holding the first twenty gallons which are extracted from a ton of seed by light pressure; after that quantity is obtained the pressure is increased and the balance of the thirty-six or more gallons are taken from the seed.

EUROPEAN PETROLEUM STATISTICS.

The yearly statistics of petroleum in Europe, made up for the fiscal year ending June 30, has come to hand. The statement shows the gratifying increase the business has developed notwithstanding the efforts made to supplant American oil. The total receipts at the seven principal continental ports was 4,408,013 barrels, which is an increase of over half a million barrels over the receipts of the year preceding. The total receipts at London amounted to 775,645 barrels, which is a decrease of about 22,000 barrels from those of the preceding year. At the latter port the imports have varied greatly from year to year, as have also the imports at Hamburg and Antwerp, but taking the continental ports together there has been a steady increase during the past five years. The actual stocks on hand in London at the close of the fiscal year amounted to 139,955 barrels, which is considerably in excess of the stocks held in previous years, except 1886, when they amounted to 177,341 barrels. In 1885 they amounted to only 87,196 barrels. The total stocks at the seven principal continental ports amounted to 661,576 barrels, while last year they were only 362,152 barrels. In 1885 they amounted to 899,387 barrels. This change is due to the altered conditions that affect the situation. Formerly all oil was carried in barrels in sailing vessels, and it was consequently necessary to carry a large stock. Later, as tank steamers began to be employed and other steamers accepted this class of freight, the stocks were reduced, and the policy prevailed of purchasing only for current requirements. This plan was regarded as the most economical until the statistical situation here became so strong that it was seen by our European customers that an important advance could not be long retarded, and they consequently began to accumulate supplies which they have stored in the receiving tanks constructed during the past two years. But large as the stocks are, they represent but little more than a three months' supply which, even under present conditions of rapid shipment, is not excessive, and can hardly be regarded as much of a surplus. The figures show a steady increase in the consumption, which last year reached a total of 5,030,184 barrels. The increase in consumption has been steady during the past four years and is the more satisfactory from the fact that during this period the efforts of the Russians have been directed toward supplanting the American product in Europe. If they make no greater headway during the next four years we shall have no cause to complain of the competition from Russia.

The schooner E. H. Furber, from Providence, R. I., for Philadelphia is ashore at Corson's Inlet on the New Jerrey Coast. The cargo will be lost. The vessel was loaded with fish-scrap used for fertilizing purposes. She went to pieces soon after striking.

THROUGH FREIGHT RATE DECISION.

An important decision was last week promulgated by the Interstate Commerce Commission in reference to discrimination in export rates in the cases brought to the attention of the Commission by the New York Produce Exchange. Our readers will remember that we commented freely on the subjet at the time and pointed out wherein the stand taken by the transportation companies was untenable, and also gave reasons for our belief that the position taken by the Produce Exchange would be sustained by the Interstate Commerce Commission. The case in brief was that the railroad companies had accepted as their proportion of the through rate from points in the West to foreign ports a smaller rate than they charge on the same goods to New York, and the claim was that this constituted unlawful discrimination. The railroads contended that the steamship rates were unstable, and the necessity of meeting competition in the foreign markets, rendered variations in export rates unavoidable. The decision just rendered completely sustains the claim of unlawful discrimination, the commission holding that the discrepancy between the proportion of the through rate accepted and the established tariffs for seaboard consignments for the same inland carriage is not shown to have been justified by any circumstances tending to show that it was just and proper, and that therefore it must be deemed an unjust and unlawful discrimination as against the transportation terminating at the port of New York. It holds that the only practicable method yet devised for making through export rates is to add the current ocean rates to the established inland rates from the interior to the seaboard. The amendments to the Interstate Commerce act made early in the present year require ten days previous notice of reductions in rates. Under these provisions, the commission holds, rates cannot be varied from day to day to meet fluctuations in ocean rates. In the opinion of the commission, the fluctuations in steamship rates to foreign countries had no bearing as that was beyond the power of the railroads to control. If a prepaid rate is accepted the railroads can readily ascertain the ocean freights—as readily as can a shipper in this city. The necessity of meeting competition in foreign markets is one that concerns the shipper only and is not a good reason why the railroads should discriminate against the home markets.

TRADE ITEMS.

Mr. E. L. Brown, of the Mansfield Drug Co., Memphis, has been in the city for the past few days.

The Kennesaw Guano Co. has been organized in Atlanta, Ga., with a capital stock of $100,000.

A party is endeavoring to organize a stock company to establish a soap factory in Charleston, S. C.

Dr. Atlee and Prof. Deryea have organized a $25,000 stock company to manufacture soap in Laredo, Texas.

The receipts from the oleomargarine tax were considerably less for June, 1889, than for the same month of last year.

Dr. T. D. Smith, of Cynthiana, has organized a company in Lair, Ky., with a capital stock of $8,000 to develop lead mines.

Works are to be built in Brandenburg, Ky. for the manufacture of soda from salt under the patents of Dr. J. P. Barnum, of Louisville.

During a heavy rainstorm in Indianapolis the fertilizer factory of E. Raun & Sons was destroyed by fire. The loss is estimated at $80,000. The insurance is $20,000.

The M. J. Grove Lime Co. has been incorporated by M. J. Bernard. L. E. D. and James H. Grove, to manufacture lime, &c., in Frederick, Md., The capital stock is $100,000.

The Weatherford, Texas, Soap Factory has been organized for the manufacture of soap with N. G. Edwards, president, and A. S. Lewis, secretary. The capital stock is $10,000.

The Palo Pinto, Texas, Medicine Co. has been incorporated with A. F. Starr, president; E. C. Baker, vice-president, and O. M. Watherhouse, secretary. The capital stock is $50,000.

The syndicate lately mentioned as organizing the New York & Virginia Mineral Co., will build chemical works in Pulaski City, Va. Geo. W. Palmer, of Saltville, can give particulars.

The Columbia, S. C. Phosphate Co. has been organized by W. A. Clark, Dr. T. C. Robertson, A. P. Butler and others to manufacture fertilizers. They will manufacture sulphuric acid also. Capital stock is $50,000.

The REPORTER acknowledges the receipt of a large pamphlet from Mr. Geo. W. Engelhardt, of Charleston, S. C., containing a description of that city and some notes about other points of interest in the State.

Ball Bros. glass works in Buffalo were completely destroyed by fire on the evening of the 23d inst., causing a loss of $22,000 on stock and buildings, on which there was a partial insurance. The cause of the fire is a mystery.

On another page will be seen an advertisement of the Victor Remedies Company, Frederick, Md. These remedies for years have had a good reputation. Their Liver Syrup, Pain Balm, Infants' Relief and Lung Syrup are well known to the drug trade.

Mr. W. R. Steiner, of Frederick, Md., has recently discovered on his farm, one-half mile from the city of Frederick, rich deposits of umbers, ochers and venetian reds. He will probably organize a company to develop this property in the near future.

Mr. J. A. Williamson, a druggist, of Frederick, Md., has two farms on the B. & O. R. R. and the C. & O. Canal, 45 miles from Washington and 70 miles from Baltimore, containing deposits of phosphate rock, pure talc, venetian red, sheet asbestos and marble.

Merck's bulletin for June, 1889, (delayed a few weeks in publication) contains a highly valuable table of maximal doses—by grains and grammes—for 113 of the newer remedies, for the majority of which no reliable dose limits have hitherto been published in this country.

The Imperial Department of Customs gives notice that the importation into Russia is allowed of ichtiola and salt of silpho ichtiolic acid, but ready preparations of the same, such as solutions, ointments, pills, capsules, plaster, soap, etc., are prohibited, these being galenic preparations.

The Richmond Paper Company, owning a $1,000,000 plant in East Providence, R. I., has closed its works, and the big mills will probably be closed up indefinitely. The creditors held two meetings, and it is understood that they are in favor of an assignment. The mills can make no money, and this is the cause of the sudden decision to close them.

At Somerset, Ky., Joseph Schagle and Byne Rogers, strangers in the neighborhood, have been buying ginseng and selling it to produce merchants at $2 a pound. They have disappeared, and returns from the commission houses in Louisville, to whom the ginseng was shipped showed that they had bored holes in large quantities of the root and filled it with lead.

Messrs. A. K. Gardiner & Bro., of Cedar street, are the sole importers of "Crown," "S. M. S.," and other well known brands of English glue. They control the trade of the United states and Canada in those specialties. They also handle large quantities of domestic glues and are prepared to give quotations on a large assortment of home and foreign makes.

In a recent address to the Royal Institution of London, Sir Henry Roscoe illustrated the amount of coloring power stored in coal by tables showing that one pound of the mineral yields magenta sufficient to color 500 yards of flannel, aurine for 120 yards of flannel (27 inches wide), vermilline scarlet for 2,560 yards of flannel, or alizarin for 255 yards of Turkey-red cloth.

The directors of the North American Salt Company on Saturday issued an official announcement declaring, practically, that the effort to float the shares and bonds of the Company, on this side of the water at least, had proven unsuccessful, and that the subscriptions, not having been sufficiently large to justify an allotment of shares, would be returned.

A company has lately been organized with a capital of $50,000 to manufacture glass at Blairsville, Pa. The company has accepted an offer of 35 acres of land, free water for a term of years and special rates on gas, from the citizens and business men of that place. The company will build at once and expect to be within running order within six months. They will employ between 200 to 300 men.

The Government Water Proof Paint Co. of Boston, have leased for a number of years the building on the corner of Milk and Brood Streets, to be used as an additional factory. This was found necessary to handle their constantly increasing business. The gentlemen connected with this company have had many years of experience in the business of making paints and colors, and know what the public want.

The peculiar excellence of the Naugatuck-Diamond Ginger Ale is rapidly commending it to that most exacting trade, the physician. As is well known, a pure and palatable article of this growing and popular beverage is specially grateful as well as mildly stimulating to the invalid and convalesent, and is therefore prescribed by doctors, once confidence can be had in the make. In this respect the Naugatuck-Diamond leads, and is getting a great deal of the druggists' trade from all parts.

The Pope Manganese Co., of 62 Franklin street, Boston, has extensive mines in Markhamville, New Brunswick, containing high class manganese ores. The deposits are being rapidly developed, and the company is prepared to fill orders promptly for granulated or any other grade of manganese, as a full stock is kept on hand. Mr. W. C. Pope is general manager and this ought to be sufficient guarantee that all business with the company will be satisfactory.

Articles of incorporation of the Montgomery County Mining and Manufacturing Company, have been filed in the Clerk's office at Frederick, Md. The incorporators are William Wilcoxon, Charles F. Markell, Dr. Lloyd T. Macgill, Jr., John C. Motter and Christian H. Eckstein, all prominent citizens of Frederick and vicinity. The capital stock of the company is $50,000 divided into 500 shares of $100 each. The purpose of the company will be to mine asbestos, yellow ochre, chrome and other ores or mineral substances, and also the opening and working of veins of metals.

It is understood that proceedings have been instituted in Charleston looking to a settlement, or partial settlement, of the accounts of the Pacific Guano Company, the property of which in South Carolina is still in the hands of the receivers. A number of the attorneys who are interested were seen, but refused to say anything at present in regard to the settlements, stating that the proceedings had not yet been concluded. It seems, however, that the settlements apply only to the attachment creditors, or those creditors who attached the property there and at Chisholm's Island before the appointment of the receivers. These settlements were made on a basis of 75 cents on the dollar, and a number of the creditors there are known to have accepted that amount, and in return to have assigned their claims to an agent from Massachusetts.

PETROLEUM NOTES.

City gas well No. 7, Stillman farm, Fostoria, O., is estimated at 5,000,000 cubic feet per day.

The office of S. Jenney & Son has been removed to their refinery at 514 Kent avenue, Brooklyn.

One-half of the puddlers employed at the American Iron and Steel Works of Jones & Laughlin, at Pittsburg, are idle on account of a shortage of natural gas.

Since striking the lubricating oil well recently, the Paola Natural Gas Company, of Paola, Kan., has struck two good gas wells. This insures the operation of the glass works and other enterprises there.

The Independent Gas Company has struck a gas well back of Sewickley, at a depth of 1,500 feet. This gives the company two wells and guarantees a sufficient quantity of gas for Sewickley the coming winter.

The scarcity of pipes has almost caused a cessation of operations in the oil and gas fields. The price of rope and cables is on the decline. while the price of pipes is rapidly mounting upward.—*Pittsbury Leader.*

The Rose Oil and Gas Company, of Terre Haute, Ind., with a capital stock of $6,000, has filed articles of association. The directors are L. A. Burnett, L. Duenweg, W. M. Slaughter, J. Hyde, T. H. Hite, Patrick W. Stack, L. J. Weinstein, W. R. Elder and Asa M. Black.

The Empire Refinery, owned by A. L. Confer, at Reno, three miles west of Oil City, was destroyed by fire last Wednesday morning. A passing locomotive ignited some oil on the tracks, and the flames spread. Nothing but the barrel works was saved. The loss will reach $20,000.

The teamsters employed by the Fort Wayne Pipe Line Company began hauling and unloading gas pipes in Montpelier, Ind., notwithstanding an ordinance refusing to allow them to lay their mains through town. Marshall Wilson arrested T. J. Dristill and George Plunkett, the sub-contractors.

Oil operators all through the oil regions have been arrested and fined for not plugging up their abandoned oil wells. Half of the fine goes to the informer. Two men have lately made it their business to inform on all violators of the law. They are now several hundred dollars ahead. Probably they are Law and Order men.—*Leader.*

The Southwest Pennsylvania Pipe Line Company, which recently lost two 2,500-bbl. tanks by lightning at Taylorstown, has replaced them temporarily by a 1,000 bbl. tank. A large iron tank of 18,000 bbls. capacity has been taken down in the Bradford field and shipped here for erection on the Cundall farm, on which the tanks which were destroyed by lightning were also located.—*Washington Reporter.*

Experienced parties who have inspected the Bristor field, near West Union and on the headwaters of Ruff's Creek, report considerable activity in that locality. The Huffman and Loughman wells are being drilled and a new rig is completed on Miles Meek's farm, between those two. The field is immediately south and southeast of the great Amity natural gas field. The Bristor well showed most excellent sand and is an actual oil producer.

The steamer Thordisa, loading petroleum at Philadelphia for St. Lubes, France, was badly damaged by fire on Monday. She had 5,486 bbls on board, and it is expected that at least one-half are destroyed. The fire was extinguished, and the vessel is aground on the west side of the river, about a mile below Point Breeze, The exact amount of damage to vessel cannot be ascertained at present. She was owned by Thos. Turnbull & Son, was worth about £25,000, and it is believed was insured in English companies.

Because water instead of oil appeared in the Exchange well at Terre Haute, it is said that disgust and disappointment spread all over the city, because much confidence had been placed in this one well. However, there were those who believed that when the best showing of oil was made the valuable fluid should have been given an opportunity to collect and come to the surface, and it was said that it did so at the Diall well with such opportunity; that the old Rose well was spoiled by drilling deeper.

Burgess Allison, Washington, Pa., last week fined Alex Agnew $10 and costs for permitting the erection of an oil derrick on his premises. At a hearing for certiorari Judge McElvaine stated that he regards the drilling of oil wells in a thickly populated borough like Washington, in proximity to buildings, a public nuisance, and he will not tie up the hands of the borough authorities by granting an appeal or certiorari, and permit appellants free to continue acts that have been adjudged a nuisance to the public. Said legal process must not be urged to defeat the ends of justice.

A report from East Rome, at the easterly end of Crawford county, says: Hummer & Crippen have three wells on Geo. Hummer's farm; C. Harrison, one well on his farm, with more wells to be put down soon. He is putting in an overshot waterwheel to pump his well. There is also a well on Lee Kerr's farm, owned by Gordon & Pratt, also a lease with one well completed, and more to follow on Alec Kerr's farm, owned and operated by U. C. Welton, of Titusville. Will put down more in due time. There is a rig up and well going down on Thos. Harrison's farm, near Maple Grove.

Major A. P. Patrick, Dominion Land Surveyor of Calgary, writes from the Summit, Crow's Nest Pass, Rocky Mountains, that he and a fellow surveyor had been prospecting for eleven weeks in the Rocky Mountains for coal oil deposits, and that they had struck one of the richest deposits ever found. Samples showed 80 per cent. illuminating oil, 5 per cent. heavy oil, and the remainder water and foreign substances. Mr. Patrick has had registered in his own name forty acres of the east side of the summitt and 500 acres in British Columbia. As it is 4,500 feet above the sea level the crude oil can be run off any distance.

D. W. Herring, the U. S. Consul at Hon duras, has the following paragraph about petroleum in his last letter to the Department of State: "Coal oil should be shipped in zinc cans. When shipped in tin it is not only too much wasted by evaporation, but the cans are very liable to breakage by rough handling or to be punctured by nails, rocks, etc. In consequence of the coal oil being shipped here in tin, the merchants are forced to charge what seems exorbitant prices for it. The import duty is 2 cents per pound, and coal oil sells here at $1 25 to $1 50 per gallon. Here coal oil lights are the only kind used. The towns and cities are lighted by coal oil. These statements indicate that there is big profit here for some enterprising man who understands the facts even on this single article."

The Tidewater Oil Company's works at Constable Hook was the scene of another fire last Sunday. Shortly before noon the third of a series of crude oil stills in the yard of the Polar Oil Company exploded, owing to an accumulation of gas inside the still and the leaking of oil into the fire beneath. The explosion blew out the head of the still and badly damaged the brick foundations of the still and those adjoining, while the terrific report startled the people of the neighborhood. No one was injured, although several of the still firemen were in front of the still when the explosion occurred. The explosion was followed by a blaze which spread before the arrival of the Bayonne fire apparatus to the still adjoining the one that exploded and half a dozen coal cars which stood on a trestle near by were in flames. By hard work the firemen and the company's employes prevented the blaze from spreading further and in about an hour the blaze had burnt itself out. The loss to the company, which carries its own risks, is estimated at about $10,000.

CHICAGO LETTER.

[Special correspondence of the OIL, PAINT, AND DRUG REPORTER.]

CHICAGO, July 27, 1889.

Stocks of linseed oil are running low. Not that there is by any means an astounding demand, but the inquiry continues excellent for the season, and the very moderate supply of the few mills that have any oil at all is becoming more and more depleted as the weeks roll by. Nevertheless, in the opinion of those best qualified to judge, there will be enough to hold out until new crop oil can be put upon the market. It follows that while the present price will be firmly maintained no further advance is probable. Crushers are still asking 60c. and, as has been intimated, there is a moderate but steady demand for truck-load lots.

There are not wanting indications of a disposition to start the mills again. Readers who note the course of the speculative market in seed, as reported elsewhere, may discover symptoms of this anxiety in the readiness of buyers to meet the views of sellers of near futures, a circumstance which is not easily explained on any other hypothesis. The first car of new seed arrived on Thursday, the 24th, six days later than the earliest arrival of last year, rainy weather in the southwest having been unfavorable to harvesting and threshing. It is thought that this *avant courier* will be followed by enough next week to swell the receipts somewhat over the meager arrivals of domestic seed during the past two months.

If any reliance is to be placed upon the multitude of rumors current here, there is likely to be far more harmony in the West during the coming year than there has been through the past. There are stories afloat of purchases here and purchases there by the trust, and it is said that that combination will, in all probability, practically control the output of oil for the crop year 1889-90. The parties most interested, however, will neither confirm nor deny these stories, which notwithstanding find many believers here, not a few of whom sagely nod and with grave face assert that it is what they have been constantly predicting for two years.

Cake is selling readily at $22@22 50, and the small quantity in sight seems in a fair way of being soon disposed of. In fact, in some quarters there is more or less talk of higher prices. This week's exports of cake from Chicago have been 543,956 lbs; total exports from this point since January 1, 1889, 27,935,321 lbs, as against 32,686,950 lbs during the same period last year.

FLAXSEED.

The public elevators were again empty at the beginning of the week while on the corresponding date of 1888 they contained 107,023 bushels. The week's inspections in foot up 9 cars of No. 1 as against 8 cars last week and 22 cars (14 of No. 1, 3 of rejected, and 5 of no grade) during the same week last year. There have been 5,500 bushels (or about 11 cars) inspected out during the week as against 1,625 bushels (3 cars) last week.

The Secretary of the Board of Trade reports the following movement by rail and lake during the week, a fair proportion of receipts being of foreign seed, by water. This did not appear upon the market:

	RECEIPTS.		SHIPMENTS.	
	1889.	1888.	1889.	1888.
Monday	4,494	....	1,062	948
Tuesday	12,396	500	648	677
Wednesday	535	1,500	....	1,110
Thursday	957	1,908	....	2,463
Friday	4,598	550	1,349	3,292
Saturday	11,885	....	520	....
Total	34,565	4,458	3,579	8,490
Last week	38,544	12,078	4,960	13,403

In the market for cash seed, there has been a firm feeling and a slightly upward tendency. The few cars offered on Monday were readily taken at $1 33, which was ½@1c above last Saturday's closing prices. There were no cash offerings on Tuesday. Only two cars were posted on Tuesday, and they had been previously disposed of to arrive. The market, however, was quotably $1 33, although a small bag lot of seed not graded sold at $1 30. On Wednesday, the market was quiet, owing to the absence of sellers, but a few cars on track brought $1 33½c, or ½c higher. This trifling advance was maintained on Thursday, but sales were confined to a single car. No. 1 was saleable on Friday, at $1 33½c, but one car only was sold—the first arrival of new seed—and that on private terms. To-day's market was dull, but cash seed was scarce, and the little offered brought $1 33½, while a small bag lot of inferior seed sold at $1 30, delivered.

The week's sales of cash seed on the floor of change foot up 8 cars of No. 1 and 34 bags of seed not graded, as against 7 cars and 8 bags last week. The range has been from $1 33@1 33½ as against $1 10@1 12 during the same week last year.

In the speculative market the volume of transactions has not been large. Sales might have been far more numerous, however, had there been more readiness to sell. Future deliveries have manifested considerable strength all along the line. The week opened with a firm feeling for all near futures, although May sold at $1 31, which was about 1c lower. August remained steady at $1 26; September sold at $1 25 and $1 23 was bid for year. On Tuesday there was a moderate request for near deliveries, but deferred futures were viewed with more apathy. Practically values were unchanged, although sellers asked $1 25 for year, and May was quotably $1 31@1 32. September was the only future sold on Wednesday, and even for that there were only a few car-lot selling orders. Other futures were nominally unchanged except that May was offered at $1 32, and that was, alternately, bid. On Thursday the chief feature of the market was a disposition to sell September, but after a few sales at the former figure, $1 25, buyers dropped out, and there were offerings which were not taken. These sales, with a car of August at $1 26, comprised the speculative business for the day, although $1 23 was bid for year and May remained nominally at $1 32. Less inclination to buy futures was apparent on Friday. One car of May sold at $1 32 and one of September at $1 25, but an easier feeling developed toward the close, when $1 24 was the best bid for September and $1 22½ for year. To-day there have been more sellers than buyers, and it seemed as though orders for futures had been pretty well filled. There were sales of September and May, however, at yesterday's prices, and the speculative market closed for the week at about its opening figures, with the exception of year delivery, which was quotably $1 22½@1 24. Sales of futures this week, so far as reported, have been as follows: Of August, 2 cars; of September, 16 cars and 27,000 bushels, and of May, 2 cars and 10,000 bushels.

OILS.

Cotton oil has been rather more quiet this week than last, the volume of business transacted, outside of deliveries on contract, not having been satisfactory to holders. Still, the market has not been altogether destitute of animation, and reported sales of winter white have exceeded those of any week for some time past. Sellers maintain 52 cents on this grade of goods (for strictly prime goods) and declare that it will not be shaved. Strenuous efforts have been put forth during the past fortnight to market an alleged winter white oil at 47 cents, and some sales have been made. Experts however, pronounce it of inferior quality, and say that it can scarcely be called a winter oil, inasmuch as it will not stand a lower test than 40 degrees. Summer oils are disastrously affected by the low prices of lard and lard oil, as regards both movement and values. Strictly prime summer yellow sells at 45 cents, while off grades change hands at what they will bring. Summer white is nominally 40@41c, but one hears of no sales at these or even lower figures. On the whole, there may be said to be some manifestations of a disposition to work off stocks as the season advances and higher prices are not probable. Of prime crude there is none, some lots of inferior quality are being hawked about, at very uncertain prices.

In lard oil, the week has been a quiet one, buyers having shown only a moderate disposition to purchase, apparently having no overweening confidence in the maintenance of present prices. Extra is still at 49 cents, while No. 1 has fallen to 37 and No. 2 to 30 cents, a decline of about two cents, so far as the latter grades are concerned. There has been only a very moderate export inquiry—certainly nothing more than normal, and perhaps scarcely up to the average standard. All this is not unnatural in view of the ascendency of the bears in the lard market, cash lard having sold at 6 10 and January delivery at 6 00. Unquestionably stocks of lard at this point are large, some estimates placing the supply as high as 60,000 tierces, and there is a prevalent impression that receipts of hogs are likely to prove liberal.

It was supposed last week that in view of the upward tendency of oleo in the Rotterkam market exportation would be greatly stimulated.

Early in the week, however, cablegrams were received indicating a quiet feeling abroad, which served somewhat as a check upon shippers. In consequence, this week's exportations have been but 3,400 tierces, as against 6,005 last week. This week's receipts in Holland are reported as 4,653 tierces; per contra, the week's sales have aggregated only 2,900 tierces, as against 8,400 tierces a week ago. Although quiet, however, the foreign market is reported to have held its own. Fancy brands have brought 60@64 florins, with lower grades selling from 59 fl. all the way down to 48 fl., which are substantially the prices ruling at the close of last week. The local market remains entirely stagnant, being neglected by sellers and buyers alike.

PAINTS.

Trade is in that quiet state incident to the season, while consumption is light and buyers purchase only enough to meet their immediate requirements. Agricultural implement makers all over the West are soliciting bids for fall work, and figuring is going on apace. It is estimated that not more than five per cent of the contracts have been let as yet, and it is not probable that the last agreement will be signed before the latter part of next month. Last year's contracts were made at exceedingly low figures, and it is quite within the bounds of possibility that a bitter competition may bring about the same state of affairs this season. The market in naphtha has recovered its tone, and prices are again uniform. Sales of quicksilver vermilion are reported rather light. It looks as though buyers were timorous of ordering, lest they should precipitate an advance upon prices which are understood to be caused by a spirit of intense rivalry between manufacturers.

DRUGS.

The leading houses report a good week's trade, and the prospect is that the volume of business for the current month will contrast favorably with that for July, 1888. No noteworthy change in prices can be noted. Opium is showing a firmer feeling, but local jobbers are still billing the gum at $3 20. There has been no improvement in demand. The latter remark applies also to quinine, the distribution of which is proceeding with funereal slowness. The sulphate is very low, selling in a jobbing way at 24½@25c. in 100 ounce cans. at the same time it is very firm, and both bookers and buyers are puzzled to know what to make of the situation or how to predict the future. The same element of uncertainty adds interest to the situation in borax, which is sel ing here in round lots at 8¼@8¾c, the latter being paid for extra brands. Buyers are disposed to ask a guarantee that prices will be maintained, and this in view of the attitude of the borax board, is what holders cannot give. Camphor gum is exceedingly firm, but as yet not quotably higher. Future deliveries of cascara sagrada continue to be freely offered, and the bark shows no new strength.

CHEMICALS.

The past has been a dull week in the chemical market, there having been few sales and no special change in prices. Dealers are still asking higher prices for caustic soda; i. e. they are demanding 2 30@2 32½c to arrive. Consumers, however, are cautious buyers and are disposed to purchase just as their necessities dictate; having laid in stock so often, only to find that their orders had been placed just before a drop. Brokers, however, are looking for an upward movement. There is some inquiry for carbonated soda ash, but sales are few and small; the market for 48 per cent remains at about 145@1 47½c. For caustic ash there is no market. Bicarbonate of soda and baking powders are moving very slowly owing to a seeming indisposition on the part of buyers to lay in stocks; which circumstances has directly reacted upon the market for alum. Some buyers have practically temporarily suspended operations. It is believed, however, that this state of affairs will correct itself before long. Cream tartar is somewhat more active, although prices continue as low as heretofore. This market has not yet sympathized with the advance in bleach reported from abroad, nor reflected the firm feeling in the east. Prices have not advanced, and the demand is languid. It is difficult to quote the market; it may be called all the way from 55@75c, including both domestic and foreign brands. Salt cake is reported steady, but rather slow. Blue vitriol is a trifle weaker; sales are reported at 5¾c, and it is whispered that if anyone wanted a car lot an offer of 5¼c would receive careful—and it is thought favorable—consideration. No heavy sales, however, are reported. Sal soda does not seem to be as firm at 87c as was reported a week ago. It was then understood that an agreement had been reached between competing manufacturers to maintain that price, but it is tolerably clear that some cutting is going on, though just how deep, it is hard to say. Considered as a whole, however, the general line in chemicals may be called a shade firmer.

The market in dyestuffs shows no change, either in prices or in the volume of business. Anilines continue in fair request and prices are well maintained. Business is good but not extraordinarily active owing to the fact that many of the Western woolen mills are deterred from running to their full capacity by the unusually high price of wool.

GOSSIP ABOUT THE SALT TRUST.

Outside of the house representing in this city the Michigan Salt Association, the proposed combination of salt producers has not many supporters here. There seems to be a lack of confidence in its ultimate success, and a suspicion that it has undertaken too large a contract. The fact that it has failed to absorb the output of Pittsburg, the refusal of the Manistee Salt Works to sell out, and the uncertainty of the Genesee Co.'s action, are, to put it mildly, not materially aiding the sale of certificates. Moreover, there are many supporters of the argument advanced in last week's issue of the REPORTER, that even granting to the Union all that its projectors claim, it will be an utter impossibility to control future development. A striking illustration of the correctness of this statement is afforded by the fact that within two days a company to mine salt has been formed at East St. Louis, with a capital stock of $30,000. The local representative of the Retsof rock lump salt company has gone East, and it is surmised that he may make some investigations while there. Before leaving, however, he expressed very emphatic doubts whether the Retsof people would unite with the Michigan Association in burying the hatchet, and this feeling is still stronger with the Manistee Company. At the same time, there is no doubt felt that the new company is backed by thoroughly reputable and responsible men and means business. But salt is too plentiful, say the doubters, ever to be controlled, wholly, by any one syndicate, however strong.

NEW CORPORATIONS.

The V-V Company, of Chicago, for the manufacture and sale of proprietary medicines and medical appliances; capital stock $10,000; incorporators, Edward Seifert, Fred. E. Bate and Frank Pearson.

The Kanopolis Salt Company, of East St. Louis, to do a general mining business, and especially to mine, manufacture and vend salt; capital stock $300,000; incorporators, Smith P. Galt, Thomas P. Bashaw and J. F. Webb.

CALUMET.

CUSTOMS DECISIONS.

(Official.)

OPIUM ASHES, SO-CALLED.

Referring to a letter transmitting a sample of an article called "opium ashes," concerning which a collector inquired of General Appraiser Heyl as to its proper classification, he is informed that the sample has been duly analyzed by a government chemist and found to contain 6·02 per cent. of morphia, and that it is the practice at New York and other ports to classify such merchandise under the provision in Schedule A (T. I., 121), for "all other preparations of opium not specially enumerated or provided for," at a duty of $10 per pound.

The experts of the customs at New York to whom the sample was submitted, state that from the appariance and taste of the article, the conclusion is reached that it is opium which has designedly or by accident undergone such manipulation as to remove it from classification of crude opium.

FREE ENTRY OF GROUND BAUXITE.

The Treasury Department is in receipt of a letter submitting the appeal of Mr. H. R. Schulz from an assessment of duty at the rate of 10 per cent. ad valorem on certain bauxite, imported by him and claimed to be exempt from duty under the provision for bauxite in T. I. 604.

The Philadelphia appraiser reports that the article in question is bauxite, ground or pulverized, which process of manufacture has greatly enhanced its value, and in his judgment, excludes it from the provision of T. I., 604, and he cites the Department's decision of March 17, 1876 (Synopsis 2,713), in which it was held that the ground mica was not exempt from duty as mica.

Since the date of said decision, however, the Department has decided (Synopsis 2,915). that ground oxide of manganese is exempt from duty under the provision in the free list for oxide of manganese; that ground hemlock bark is exempt as hemlock bark (Synopsis 3,225), that recovered oxide of manganese is exempt as oxide of manganese (Synopsis 8,429); that "that "soufre raffine en masse" is exempt as "sulphur or brimstone not specially enumerated or provided for" (Synopsis 8,482), and that bismuth in sticks is exempt as "bismuth" (Synopsis 8,868), therein recognizing the principle that where an article is specified in the free list without terms of limitation, such article is exempt from duty irrespective of the condition in which it may be imported if retaining its commercial designation.

Under this principle the ground bauxite is exempt from duty under the provision for "bauxite," in T. I., 604, and the collector is authorized to readjust the entry and to refund the duty levied thereon.

DRAWBACK ON REFINED STEARINE.

On the exportation of refined stearine manufactured by Messrs. Ward & Huntington, wholly from imported crude stearine, a drawback will be allowed of the duties paid upon a quantity of the imported material equal to the net weight of the exported article, less the legal retention of 10 per cent.

BROMO FLUORESIC ACID DUTIABLE AS A COAL TAR COLOR.

The Treasury Department is in receipt of a letter with its accompaniments, in regard to the question which was recently considered as to the classification of bromo fluoresic acid, an article which certain importers (Messrs. Wm. Pickhardt & Kuttroff) claim to be exempt from duty, under the provisions of the free list for "acids used for medicinal, chemical, or manufacturing purposes, not specially enumerated or provided for in this act" (T. I., 594), but which certain domestic manufacturers (Messrs. Heller & Merz) represent to be not an acid, within any proper meaning of that term, but to be a color or dye derived from coal tar, and to be dutiable at the rate of 35 per cent. ad valorem, under the provisions of Schedule A (T. I., 82), for "all coal tar colors or dyes, by whatever name known and not specially enumerated or provided for in this act."

The question as to the classification, under the existing tariff act of this merchandise, was heretofore duly considered by the Department, as will be seen by reference to its ruling of January 14, 1887 (Synopsis 7983). In that case the United States appraiser at New York had reported the merchandise to be derived from coal tar, and to be principally used in imparting colors to silk, wool, and cotton fabrics, whereupon the Department decided that it was dutiable at the rate of 35 per cent. ad valorem, under the provisions last above mentioned. Subsequent decisions of the Department unpublished have also been rendered to the same effect.

The matter was very carefully considered by previous appraisers, who gave a hearing to all parties interested; lately expressions of opinion from various officers of the customs as to the proper classification of the article have been united and the collector reached the conclusion "that bromo-fluoresic acid is a derivative of coal tar, is in itself a coal tar color, and should be classified under paragraph 82 (T. I., new), as a coal tar color:"

The collector's opinion coincides with the decision of the Department above mentioned, and it would therefore seem that there is no reason for any further action on the part of the Department, inasmuch as the merchandise should be classified for duty as aforesaid.

It may be mentioned that the decision of the court in the case of Matheson et al., against Robertson, related to the classification of such merchandise under the tariff acts in force prior to July 1, 1883, which were, as far as this article is concerned, of a different tenor from the act now in force; and also that the Department's instructions to the then collector of customs limited the settlement of the then pending suits to such as covered entries of the merchandise in question which had been imported prior to said date.

PRODUCTS OF PETROLEUM FORBIDDEN ON PASSENGER STEAMERS.

The Treasury Department is in receipt of a letter from William M. Bird & Co., requesting a decision as to whether "gasoline" might not be carried on passenger steamers to Sullivan's Island, South Carolina, there being no railroad communication between Charleston and the Island.

Under the provisions of section 4472, Revised Statutes, the only product of petroleum that can be carried on passenger steamers is refined petroleum, which will not ignite at a temperature less than 110 degrees Fahrenheit thermometer, and then only upon routes where there is no other practical mode of transporting it. Whereas "gasoline," which ignites at 60 to 70 degrees Fahrenheit, is simply another name for "naphtha," "benzine," "benzole," &c., articles which are absolutely prohibited, in terms, in the statute referred to, from being carried on passenger steamers under any circumstances whatever.

JASMINE-WATER DUTIABLE AS MEDICINAL WATERS.

The Treasury Department is in receipt of a letter transmitting a further report from the United States appraiser relative to the appeal of Messrs. Dodge & Olcott from a decision assessing duty at the rate of 25 per cent. ad valorem on certain jasmine-water, imported by them, and claimed to be either free, by assimilation to oil of jasmine, named in T. I., 750, or dutiable at 20 per cent. ad valorem as an unenumerated manufactured article.

It appears that said jasmine-water was classified by the appraiser as a medicinal water, under T. I., 93, for the reason that it assimilates in the manner of its preparation, as well as in its possible uses, to the rose water and orange flower water covered by the Department's decision of October 12, 1883 (Synopsis 5945), and therein held to be dutiable at 25 per cent. ad valorem under said paragraph.

IRON-OXIDE DUTIABLE AS COLORS OR PAINTS.

The Treasury Department is in receipt of a letter reporting further on the appeal of the Harwood Manufacturing Company from assessment of duty at the rate of 25 per cent. ad valorem on certain iron-oxide, imported by them, and classified for duty under the provision in T. I., 87, for "colors and paints."

The appellants claim that the merchandise in question is a crude oxide of iron, and exempt from duty under T. I., 638, "for crude minerals not advanced in value or condition by refining or grinding, or by other process of manufacture," and the Department's decision of October 27, 1883 (Synopsis 5,972).

From the report of the appraiser it appears that iron-oxide, colcothar, and crocus martis are all obtained by igniting copperas in contact with air, when the salt is decomposed, water and sulphuric and sulphurous acids being given off. The product is brown-red, more or less gritty, inodorous, tasteless, and insoluble in diluted acids. It forms the main constituent as iron-paint, and when reduced to a fine powder is used as a polishing-powder.

The distinction between the article covered by the appeal, which is also known as iron-oxide, and the crocus martis or oxide of iron above mentioned, and covered by the Department's decision of February 25, 1889 (Synopsis 9,265), appears to lie in the fact that the latter is free from grit and is used as a polishing powder, while the former, which is a crude mineral, contains so much grit as to be unfit for polishing purposes, and is used principally, if not exclusively, as a color or paint.

The article, being in fact a color or paint, is properly dutiable under the provisions for color and paints in T. I., 87, which is more specific than the provision for "crude minerals" in T. I., 638, and the assessment of duty is hereby affirmed.

In regard to the claim that the Department's decision synopsis (5,972) is applicable, the question whether the oxide of iron therein referred to was a color or paint does not appear to have been presented or considered.

CHEMICAL SALTS.

The Treasury Department is in receipt of a letter transmitting the appeal of Messrs. Schulze-Berge & Koechl from a decision assessing duty at the rate of 25 per cent ad valorem on certain so-called "naphtol sulpho acid" and "nitrite of soda" imported by them and returned by the appraiser on the invoice as "chemical salt, 25 per cent."

The appellants claim that the naphtol sulpho acid is either exempt from duty under the provision in the free list, T. I., 594, or dutiable at 20 per cent ad valorem as a coal tar product, or a preparation of coal tar, under T. I., 81 or 83, and that the nitrite of soda is exempt from duty as a nitrate of soda, named in T. I., 630, or as an article assimilating thereto.

From the special report of the appraiser on this appeal it appears that the first-named article was found upon chemical analysis to constitute a chemical salt known as "sodium salt of sulphonated naphtol," and that the second article, viz., nitrite of soda, is a chemical salt different in its composition from nitrate of soda named in the free list, and does not assimilate thereto in material, quality, texture, or the use to which it may be applied.

Both articles appearing to be chemical salts not otherwise provided for in the tariff, the decision assessing duty thereon at the rate prescribed by T. I., 92, for such salts is affirmed.

MANUFACTURED PERUVIAN BARK.

The Treasury Department is in receipt of a letter, submitting the appeal of Messrs. F. G. Pierra & Co. from an assessment of duty, at the rate of 10 per cent ad valorem, on certain Peruvian bark, imported by them, and claimed to be exempt from duty under the provision in T. I., 521, for "barks, cinchona, or other barks, used in the manufacture of quinia."

The appraiser reports that the article is not cinchona bark simply in a ground state, but that it has been subjected to a further process of manufacture for the purpose of developing the alkaloid principle.

The Department is of opinion that such process of manufacture removes the article in question from the purview of T. I., 521, and that it is properly dutiable at the rate of 10 per cent ad valorem, under the provision in T. I., 94, for "barks * * * advanced in value or condition by refining or grinding, or by other process of manufacture."

The assessment of duty thereon is hereby affirmed.

OILS

The assessment by collector at New York at 25 per cent. ad valorem on essential oils is affirmed on the appeals of G. Lueders, per Adriatic, June 1, 1889. Fritzsche Bros., per Lahn, June 1, 1889.

COAL TAR COLORS.

The assessment by collector at New York at 35 per cent. ad valorem and 5 cents per pound respectively on coal tar colors and yellow prussiate of soda is affirmed on the appeals of A. Klipstein, per Rhyniand, March 29, 1889: Pickhardt & Kuttroff, per Rotterdam, March 16; P. Caland, April 20, 1889.

TURPENTINE.

The assessment by collector at New York on turpentine imported by R. F. Downing & Co., per Tower Hill, March 1, 1889, is affirmed. The appellants claim that the actual weight per gallon was 7·219 pounds and that the quantity should have been ascertained by dividing the total net weight by that amount. The appraiser reports that the average weight per gallon of American turpentine is commercially recognized as seven pounds; that the return of quantity was made upon that basis and that it has been the practice at your port for the past 20 years to so ascertain the quantity of turpentine, which practice has never heretofore been questioned. It is suggested that hereafter the actual weight per gallon of importation of turpentine should be ascertained and applied as the basis for ascertaining the quantity contained in the importation. As the ascertainment of actual weight in this case is now impracticable, the assessment is affirmed.

MISCELLANEOUS.

High Grade Castor Oil.

Over a quarter of a century ago Messrs. H. J. Baker & Bro. established their brands of "Baker's AA" and "Crystal" castor oil, the exceptionally fine quality of which has made them most favorably known wherever drugs are sold in the United States. These oils have a reputation for purity, brilliancy and general excellence for which they are not surpassed by the product of any manufacturer in the world. When their oil was first put upon the market the firm encountered great difficulty in bringing it to the favorable attention of consumers for the reason that the foreign manufacturers at that time supplied all the trade of this country. This difficulty was surmounted by perseverence, and buyers soon found that the Baker oils had been brought to such perfection as to be equal to if not better than the foreign.

As stated in a recent issue this branch of Messrs. Baker & Bro's. business has been incorporated as a stock company, and is under the same able management that has brought the product such just recognition in the trade, and they will doubtless continue increasing the large business that has been built up by the excellence of their oil and their upright dealings with the trade.

The Dickert & Myers Sulphur Co.

In our issue of July 3d, we gave space to the following:

"Special Telegram to OIL, PAINT AND DRUG REPORTER.

"SALT LAKE CITY, Utah, July 1, 1889.

"Your statement of June 28th is false, and will bring many stockholders who are readers of your paper to pecuniary loss. Please do justice by publishing this.

"DICKERT & MYERS SULPHUR CO."

We now have before us a complete copy of the Supreme Court's decision in case referred to, and find that it is "against Mr. Dickert on all points involved," precisely as reported in our issue of June 26th.

The Van Duzen Gas Engine.

The proprietors of the Van Duzen Gas Engine Co., of Cincinnati, who have had a personal, practical and successful experience of from 40 to 50 years as manufacturers of engines, machinery and mechanical appliances, have issued a pamphlet of 30 pages containing valuable information concerning the gas engine which has become so popular and is guaranteed perfect in principle, construction and action. The power and efficiency and the economical working of any gas engine primarily depends on the proper admixture of air and gas as well as certain conditions regarding its ignition. In the Van Duzen gas engine these prime conditions have been so thoroughly mastered as to justify the makers in claiming for their engine that it works on new principles, since it is a departure from all other engines in constructive principles, and that it removes any objection to the use of gas engines that may heretofore have existed, because its action and construction are such that those objections are obviated and overcome. A detailed and comparative description will be found in the pamphlet.

Not Cutting Prices on Colors.

Messrs. Henry Wood's Sons Company, of Boston state in writing that they have not deviated one cent from their schedule prices on Marseilles Green, notwithstanding statements to the contrary. Their latest circular reads as follows:

"We write to say that we are selling Marseilles Green at the present time in lots of 500 lbs. or more as follows:

Ground in oil assorted	1 to 5-lb cans	13½c	net,
" " "	10 "	12c	"
" " "	25 lb pails	11½c	"
Dry	6 lb cans	11c	"

lots of less than 500 lbs., ¼c per lb. additional; delivered f o b Boston. Usual terms."

Special attention is called to their celebrated Marseilles green and Marseilles colors, pure colors ground in oil, pure colors in Japan, ready mixed Queen Anne liquid paints, family, floor and zinc paints, colors in distemper, dry colors of every description, oils, varnishes, japans, dryers, etc.

Amended Petroleum Rules.

In order to overcome some of the objections that have been urged against the rules recently adopted to regulate trading in futures on the Consolidated Exchange, the following amendments haee been adopted and were put in force last week:

Cash or spot oil, if the trade is made before 11 A. M., shall be cleared through the Clearing House; if after 11 o'clock, ex-Clearing House, which means certified check for the certificates which must be delivered before 2:45 P. M.

All transactions in National Transit Company Pipe Line Certificate options shall be cleared through the Clearing House, unless otherwise agreed upon.

On all options not borrowed or loaned at 3 P. M., notice shall be given to the Clearing House before 6 P. M., except on Saturday, when said notice shall be given by 2:30 P. M., in default of which a penalty of two (2) dollars shall be imposed.

The Pipe Line certificate balances as shown by the notices or clearing sheets, shall be contracted for with any member notified by the Clearing House for his account and risk.

The contract time on contract notices shall commence at 10 A. M.; either party shall have the right to call for margins, which shall be responded to within thirty minutes.

The Clearinr House Committee, or manager, shall post each day on the blackboard, the clearing prices for each month, and cause the same to be sent over the tape at the close of business each day.

Seller's option (or loans of seller's option) gives the seller (or borrower) the privilege of terminating the same any time within the time specified in the contract, by giving notice to the buyer (or the loaner) at or before 2 P. M the previous day, except on Saturdays, when notice must be given by 11 30 A. M. that he is ready to deliver. The Pipe Line certificates shall then be delivered through the Clearing House on the following business day, and the buyer (or loaner) must receive and pay for the same. If no notice is given, the delivery shal take place through the Clearing House on the last day of the contract. On all other loans of option contracts or cash oil, must be given before 2:45 P. M., otherwise the loans and carrying rates will be considered as renewed.

(Note.—Regular oil means oil sold or bought for the following month, otherwise the kind of oil must be specified before the price is named.)

A Medical Journal Trust.

It is currently rumored that a combination of prominent proprietary and patent medicine houses has been formed to furnish capital to control what is proposed to be substantially a "Medical Journal Trust." These rumors have grown from the announcement sent out a short time ago when several medical journals in Philadelphia were consolidated under the name of the *Times and Register*.

It is said that this combination, which is known as the American Medical Press Association, proposes to gradually absorb all the medical journals of this country. The way this is to be accomplished is for the combination of manufacturers to withdraw their advertisements at the same time from one journal, and use every other means they can to cripple it, so that it can be bought in at a low rate. This plan is to be continued slowly and cautiously, so as to avoid publicity, until all of the journals are gradually taken in.

Such a combination, if it should be completed and conducted in accordance with the peculiar honesty and principals that the *Times and Register* is now advocating, would certainly make a spectacle that would bring everlasting disgrace on the medical profession of this country and on all who have had anything to do with so unprincipled an undertaking.

On any kind of a basis such a "medical journal trust" would give nostrum mongers a powerful weapon with which to humbug and deceive the medical profession; and its progress will most surely be opposed by all respectable journals, physicians, and druggists and by the general public.—*Druggists Circular.*

Glass Workers' Wages.

The wage committee representing the glass workers and manufacturers of the Western District met in Pittsburg last week to arrange a scale for the next fire. There was a full attendance and an animated debate of the question. A reduction of ten per cent. was demanded by the manufacturers, to which the workers demurred, and after a discussion lasting several hours the employers' committee offered to compromise on 5 per cent. reduction. On the other hand, the workers demanded that the 5 per cent. discount taken from their wages several years ago be restored, and they also asked for an advance on certain "brackets." No agreement was arrived at, and the meeting adjourned to the 13th of August. The *National Glass Budget* says the men are confident that there will be no reduction at all, and that many are of the opinion that they can regain the old wages of several years ago.

The German Chemical Industry.

The annual meeting of the Society for the Protection of Chemical Industry in Germany was held in Hamburg on July 2. The society's report for the past year speaks favorably of the condition of the German chemical industry in general, and points out that the extension of the combination movement has been advantageous, less through the advance in price caused by it than because it has steadied business in general and succeeded in limiting surplus production. The number of chemical works in the whole of Germany at the close of 1887 was 4,325. At the end of last year it had risen to 4,464. The aggregate of working days in the whole of these works had been 24,375,434 in 1887, and 25,100,024 in 1888, while the money paid in wages had increased from 62,710,380m. to 65,644,013m., or, from 765m. to 773m. per head. The import of raw materials from foreign countries had increased by 124,552 tons; the export of manufactured chemicals by 33,890 tons. A careful analysis of the financial results of the year's working, as shown by the balance sheets of companies, showed an average dividend of 6·20 per cent. for alkali works, 8,05 per cent for artificial manure works, 10·89 per cent. for manufactories of pharmaceutical and technical preparations, 13·25 per cent. for explosives works, and 15·44 per cent. for coal tar dye works. The average percentage of dividends for the entire chemical industry was 8·50 per cent.

The Linseed Crop In India.

The *Times of India* for the 11th June last says that the final report on the linseed crop in Berar for the season 1888-89 is as follows:

"The total area covered by this crop in the year in question was 304,619 acres, against 317,004 acres in 1887-88, being a falling off of 12,385 acres, or 3·9 per cent. This is the net result for the whole province, but taking the districts separately, those of Amraoti, Akola, and Elichpur show an increased area under linseed of 12, 29·31 and 55·68 per cent., respectively. In Wun and in the two remaining districts of West Berar, viz., Buldana and Basim there was a decrease respectively of 14·86, 36·57 and 39·13 per cent. The truth probably is that in a dry year like 1888-89, when the monsoon ended early and the usual Christmas rain was scanty, the soil of the upland districts of Wun, Basim and Buldana does not retain enough moisture to admit of linseed being safely cultivated.

"In the report for the year, the average outturn per acre was taken as one maund, which, as suggested by the Government of India

was much too low. The annual revenue reports show that the average out-turn for the five years ending 1887-88 was two maunds one seer, and as the out-turn for 1887-88 was one maund 39 seers, it is probably safe to estimate the out-turn for 1888-89 at two maunds per acre. This will yield for the province an estimated gross out-turn of 609,238 maunds.

"The decrease in the area under linseed cultivation has been followed by a decreased export of the article. In 1887-88, 701,960 maunds were exported, against 609,807 maunds in the year under report.

The Brush Trade.

A Boston *Bulletin* reporter lately had a conversation with gentlemen engaged in the manufacture of paint, whitewash, artist and shaving brushes. Of the seven largest concerns in the industry in the country one is located in Boston, one in Portland, three in New York, one in Philadelphia and one in Chicago. The capital invested in the industry in Boston must aggregate fully $500,000, while about $400,000 worth of bristles and hair are annually consumed. The volume of trade is very satisfactory, but margins are closer than for some time, owing to the rise in the value of bristles and hair. Prices of brushes show but little change from last year, as manufacturers try to take advantage of cheaper processes and methods of manufacture, to make up for the added cost of stock.

The same complaint comes from the brush trade as from other industries that the tendency of the trade is toward cheaper lines every year. Every manufacturer knows that this is poor economy for the consumer but if they are to do business they must cater to the demand. This crowding down the price of manufactured goods partakes something of the nature of an epidemic and probably must run its course. At present the demand is for a brush at a certain price and the result is that manufacturers produce an article at such figure, but the quality of the goods naturally suffers in the process of evolution. When customers cease to make price the only desideratum and give some attention to other points, the quality of manufactured goods will steadily improve.

The principal season for selling brushes is from November to May, the consumption being largest in the months of good weather, while manufacturers are most busy making up stock from August to March. The export trade is increasing. South America uses such poor brushes that manufacturers pay little attention to developing that trade. Australia, which might be a good customer, is so far away that no special effort is made to secure the business, though some grades are sold there. At the exhibition in Melbourne a Boston house received the first prize on paint brushes in competition with English, French and German makes. No business can be done with the Continent, as they do not use so good a quality of brush as ours. England is our best customer, taking a great many varnish and paint brushes. In fact, our varnish brushes are superior to anything that can be obtained there, and they are extensively used on fine car and carriage work, etc.

The Window Glass Situation.

There are indications of trouble in the window glass industry over wages for the next fire, says the *American Manufacturer*. The glass workers have demanded advances over the present scale on certain sizes, and in addition the straight scale without any discount, which is equivalent to a 5 per cent advance over the wages paid during the fire just ended. On the other hand, the manufacturers, who at first asked a reduction "all round" of 10 per cent on last year's wages, have offered to compromise on 5 per cent. No agreement was reached at the meeting of the committees representing the workmen and employers held on the 23d, and the conference has adjourned to August 13.

It occurs to us that the present is hardly the time for the glass workers to demand an advance in wages. It is true that owing to the policy of restriction of apprentices, for which the association is responsible, there is a scarcity of blowers, so great a scarcity that it is compelled to violate, in spirit at least, a law whose passage the association secured; there are other conditions which indicate the unwisdom of demanding an advance at present. In the first place, the imports of glass are the largest ever known, equal, so says Presiden Bodine, of Manufacturers' Association, to 30 per cent of the consumption. During the fire just closed there has also been a largely increased production of glass, chiefly in the west, and a still greater increase of capacity did not make itself felt last year but will the coming. The Jeannette factory really was no factor last year, but will be an important one next year. This all indicates a greatly increased production in 1889-90 over the 3,200,000 boxes produced in 1888-89. Then the competition of American made plate glass will be more vigorous and more injurious in the near future than it has in the past. Plate glass will take the place of a good deal of blown window glass.

Altogether, therefore, the outlook for 1889-90 in the window glass industry is not a bright one, and many works will not be inclined to run in view of the loss that seems in many cases inevitable under the conditions that promise to obtain.

How Rival Petroleum Producers Worked the Tricks.

The following narrative is a true one in every particular, with the exception of the names used, these being fictitious for the reason that the persons mentioned are all alive at the present writing. The transaction spoken of was only one of the many which has occurred in oildom during the past three decades, and is used at this time as an illustration of the ways and means resorted to by the land-grabbers to gobble up valuable territory.

In 1885 the excitement had somewhat subsided in the vicinity of Cherry Grove and other prolific points, and operators were looking around for new fields to conquer. Just at this time a venturesome "wildcatter" had made a lucky hit at a point on the P. & E. R. R., about two or three miles from Warren, and there was, of course a rush in that direction to secure leases. All the old-timers were on the ground in a twinkling, and the pulling and hauling among these sharks was great.

The farm of one old German farmer named Schmidt was judged to be exactly on the "belt," and there was a deadly strife among those in quest of leases as to who would capture the old fellow and reap the harvest of oil that was supposed to be slumbering beneath the Canada thistles and white daisies which at that time seemed to be the main output of the land.

The Anchor Oil Company had one of its smartest men on the ground with orders to leave no stone unturned that would have a tendency to help secure the much-coveted piece of property: in fact this agent's orders were imperative, the company must have the land, 'as they wished to use it in their business." The owner of the land could not speak English, and the various efforts made by the different scouts and agents to come to any arrangement with the old gentleman proved altogether unavailing. At last the Teutonic land-owner came to the conclusion that he would visit his old friend S. in Warren and lay the matter before him. Mr. S. was a German and one of the most prominent merchants of Warren. Mr. S. told the man to do nothing without consulting him and to refer all parties seeking to lease the land to him. This advice was followed, and that afternoon Mr. S. was waited on by the agent of the Anchor and an agreement drawn up whereby the company was to pay $350 bonus and one-eighth royalty for the privilege of drilling the lands. This lease was duly signed and the matter supposed to be settled.

The following morning, after it had become known that the Anchor had secured the much coveted lease, a tall, dark-complexioned man, possessing a very heavy black mustache, put in his appearance at the court-house and asked permission to examine the deed-book. We will call this man G.W. for short; he was—and is— one of the smartest men in the region. After an hour's time spent in going through the big books G.W. left the court-house in a hurry and taking a sort of half walk and half trot soon reached the store of Mr. S., the merchant, who was acting as middle man between the Anchor and the German farmer.

Mr. S. was sitting at his desk when G. W. entered, and without waiting to even say good morning, the latter said: "Say, S., have you got the handling of that property up near Rodgers's Mills?" "No," replied Mr. S., "I don't know that I have the exact handling of the property, but I have always been the old man's adviser, and he never does any business without first consulting me."

"Well, that's what I thought," G.W. replied, hastily. "Now I'll tell you what I'll do. If you'll get me a lease of that piece of land of his, signed by his wife, I'll give her $500 for it, besides one-eighth of the oil."

"You're too late, George," smiled Mr. S., "that land was leased yesterday to the Anchor Oil Company."

"I know all about what was done yesterday," spoke up G. W. "That don't make a particle of difference; if you'll get her to sign a lease I'll do just as I proposed and take all chances."

"Why, you must be crazy to propose such thing, said Mr. S. in astonishment; "how in the world can the owner give you a lease when he has already given the same thing to other parties."

'You're talking about one thing and I another," said George. "I don't want the old man's signature at all; what I am after is the name of the old woman to a lease, and then the Anchor can take their paper and do what they like with it and my company will go ahead and drill the farm."

"What do you mean by such crazy talk?" asked Mr. S., his curiosity showing itself in spite of all he could do to remain calm.

"I mean," said George, and as he spoke he could hardly keep from laughing outright. "that the old man has no more to do with that farm, as an owner, than I have. The deed as it stands on record at the court-house is in his wife's name and the Anchor's lease is 'n. g.' Now I want you as a friend, to use your influence to have the old lady give me a lease of the property with her name to it, and I will give her $500 cash down, one-eighth royalty, and agree to have a well down in 40 days."

After thinking the matter over for a moment Mr. S. informed George that he considered it his duty under the circumstances to inform the owners how the thing stood, but as an honest man he could give them no advice that would cause them to do a thing of the nature proposed. The German and his wife were both present at the time the lease to the Anchor had been drawn, and both had agreed to it, although only one of them had signed it. He should advise them to stick to their bargain with the Anchor.

The next day, by some hook or crook, the Anchor Oil Company "got on" to the racket, and at once dispatched a man to the court-house to examine the records. Imagine this gentleman's surprise when he discovered not only the truth of G. W.'s claim, but further that when the present owner came into possession of the property there was no deed given, but that the transfer was made by an article of agreement, and the same had never been put on record. The truth was, about twenty years before this time the property was owned jointly by its present occupant and a man named D——, it having been bought by them for lumbering purposes. At the conclusion of this work, the German bought his partner out, and the land since that time had been used for for farming.

The former partner was at this time living in Warren and to him the Anchor agent at once flew, and after beating around the bush a little time offered him $500, if he would sign a paper relinquishing all claims to any interest he might possess in the land mentioned. This Mr. D. was only too willing to do. He was in hard financial circumstances and the money was a regular windfall to him. From Mr. D. the Anchor agent, acting under instruction from his company, went direct to the German and his wife, told them how the matter stood and offered the old lady $600 in addition to what had already been paid her, if she would sign a new lease. Accompanied by the agent the honest old German and his wife at once visited the store of Mr. S., the merchant, and the facts in the case were again gone over. Mr. S. said he did not wish to stand in anyone's way, but at the same time he was forced to advise the couple to accept the proposition of the Anchor people in preference to all others, as he considered it a matter of honor. The lady argued that others had offered her fabulous sums, and she said she did not exactly see her way clear in the matter. Seeing this hesitation on the part of the woman, the Anchor representative resolved to close the business at once.

"I'll tell you what I'll do," said he, rising and pulling from his pocket a roll of bills that made the eyes of the onlookers stick out with wonder, so large and fat was the wad, "I will give you an even $1,000 if you will sign a new lease, and you can keep the money already paid you." This was a clincher, and in a minute more the old lady's name decorated the bottom of a legal instrument, and the $1,000 was handed over.

The land thus obtained, as it turned out proved valueless. The belt went in another direction, and to-day the German and his wife draw interest on their $1,350 and work the farm as of yore. Mr. D—— took his $500 and built him a neat little house, and the merchant took from his office one day a check for $100 to pay for his trouble in the matter. The above is a true sketch.—Titusville cor. *Buffalo Express.*

Natural Gas and Petroleum in Kentucky.

The search for natural gas in Kentucky is being actively prosecuted, and gas has now been found in every section of the State except the extreme west. The great field in Meade county, from which the city of Louisville is drawing its supply, was at first thought to contain all the gas that would be found outside of the mountain districts. The indications were so strong and the field was so well defined to geological eyes that there was never any experiment connected with the boring in Meade county. Now, however, only forty miles west of Meade county, entirely outside of the Meade county field, and in a locality where the geologists predicted with the utmost confidence that no gas would be found, the finest well in Kentucky has just been struck. This is at Cloverport, a very solid and substantial town of 2,000 inhabitants on the Ohio river, in Breckinridge county. The well, which is variously estimated to be producing from 500,000 to 1,000,000 feet per day, is entirely unlike the wells in the Meade county field. In the latter the gas is reached in a common black shale at a depth of about 430 feet, and is the common odorless gas now so familiar in the developed gas territory. The well at Cloverport is over 900 feet deep, and the gas has been discovered there in a stratum which thus far has not been recognized by the geologists. Certainly, however, it is not in the black shale, which has not even been encountered. There is an idea that the gas-bearing rock at Cloverport is what is known as the "Keokuk." The gas has a very strong odor, like that of the ordinary artificial coal gas for lighting purposes, being strongly impregnated with petroleum. This makes it a very safe gas to use, since any leakage will make itself known instantly. The quality is also unusually pure, and but for the presence of oil, it could be easily used for every lighting purpose. As it is, the pressure is very strong, and one well already furnishes a sufficient flow to furnish the whole town of Cloverport with all of its heat and light, and could supplant all the coal now used there. There are several other wells that are now in process of boring at Cloverport, and there is no doubt that a splendid field is about to be opened.

The pioneers in the gas wells are persuaded that they can also obtain petroleum in paying quantities, and one of the wells will undoubtedly be pushed through the stratum of rock from which the gas is obtained in the hopes of finding petroleum below. The country round about is full of indications of the existence of petroleum upon a large scale. Immense deposits of cannel coal are to be found in the hills some distance from the river, and what is known as asphaltum rock, which is simply a sandstone or limestone strongly impregnated with petroleum, abounds over the whole country. For more than fifty years the springs in the neighborhood, known as the Tar Springs, have been famous for their medicinal virtues, the water being impregnated with petroleum, which forms on top into a substance closely resembling common tar. It is, of course, beyond question that the cannel coal and the asphaltum rock indicate the presence of oil and in very large quantities. The proximity of the territory to river and railroad shipping lines would make the discovery of oil very valuable and important.

The discovery of the gas is in itself enough to make the fortune of Cloverport, and assure its future. In the vicinity of Cloverport is to be found abundance of sandstone, which has been tested in Pennsylvania, and proves to be very useful in the manufacture of plate glass. In the adjoining county of Hardin are vast beds of glass sand the product of which is already being shipped to glass manufacturers in several States. These are all so convenient to Cloverport that they may practically be said to be in the town, and the purity and the quality of the gas supply (if it is supplemented by abundance in quantity) will mark it as a point where glass works are sure to be established. It is understood that the De Pauws, of New Albany, have already had their experts on the ground looking into the gas supply and the sandstone. The De Pauws have spent a great many thousand dollars in boring for natural gas and making experiments with artificial fuel to take the place of coal and which would enable them to compete with the glass factories established in the natural gas field of Pennsylvania, Ohio and Indiana. It is not improbable, therefore, that before long this great industry will be bodily removed to kentucky, and Cloverport is an excellent point in every respect for its permanent location.

The town of Cloverport already has a great many advantages to attract manufactories and population. The county of Breckinridge is a very large one, and a very law-abiding and thrifty population inhabits it. Cloverport, with about 2,000 population, is beautifully situated on the river, and is a very picturesque, healthful and substantial place. The town is filled with comfortable and beautiful homes, and the people are very well-to-do and thrifty. There are no very rich people, and the number of people who are very poor is extremely small. It has always been a very quiet and orderly place, and is, therefore, in every respect a desirable point for settlement. Many years ago before petroleum had been discovered, oil was manufactured there upon a very large scale out of the cannel coal in the vicinity, and the ruins of the great works, which had employed several hundred men and paid out hundreds of thousands of dollars yearly in wages, are still to be seen. The discovery of petroleum, destroyed these works as if by a breath, but the company owning the cannel coal field continued to mine the coal with varying fortune, and to-day the cannel coal industry has succeeded the oil industry. Cannel coal is shipped from Cloverport to New York and Europe and points all over the United States at a very profitable figure, and the output can be increased to almost any desired figure. The mines at present employ about fifty workmen, and the quality of coal obtained ranks with the best known in the world.

A strong company has just been formed and the property of the well-known old Tar Springs has been purchased, consisting of 360 acres. This is situated about four miles from Cloverport, and is a very valuable and beautiful property. It is not only exceedingly picturesque, attractive and healthful as a summer resort and sanitarium, but the property abounds in asphaltum rock, and will one of these days be worth untold money. The hotel on the property was destroyed by fire several years ago, but the new company propose to rebuild for next summer and establish a popular resort. The Tar Springs was formerly a great place of resort, but since the railroads were built they have been comparatively difficult of access and the patronage fell off greatly during the past 10 or 15 years. Being now within easy reach of Louisville, through the building of the new railway, they can doubtless be readily brought into prominence The Louisville, St. Louis & Texas railroad can take passengers from Louisville to the springs in less than three hours.

It is very much to the interest of Louisville to see every particle of development of which Cloverport is capable fully achieved. It increases the market of this city, strengthens the commercial interest in every way, and does not detract a particle from the importance of the opportunities in this city. Th

building of the Louisville, St. Louis & Texas railroad has certainly given Cloverport a much needed outlet, which supplements its advantageous situation on the river, and, of course, gives it quicker communication with the outside world. The business men of that place have been aroused by the discovery of the gas and the development of their facilities by the railroads, and are moving very earnestly to secure every benefit possible from the gas. They have just organized a strong commercial club with 62 members, the president of which is the Hon. D. R. Murray, the secretary being C. W. Fowler, Esq. The very best men in the place are active members, and the organization is already taking up the consideration of important questions connected with the removal thither of manufacturing and industrial enterprises. It will be very surprising indeed if, within the next two or three years, Cloverport is not one of the most important towns on the Ohio river in Kentucky. Certainly it will be if the business men there benefit by the many great advantages which they possess and which are becoming better known every day.

The development of the oil territory in Kentucky is of sufficient importance to engage the best men in the State. The wells that have been sunk in the vicinity of Glasgow and about the head waters of Green river are of great value, not only in the extent of flow, but in the quality of the product, which is said to be much richer and purer than any crude oil yet found in the United States. All of it is convenient to rivers, and the basis of transportation is therefore advantageous. The preliminary geological surveys in western Kentucky made by Mr. Procter, of Kentucky, and Prof. Orton, of Ohio, have led to the belief that great fields of gas and oil will soon be tapped in that part of the State. All of this, if utilized, means not only an enormous increase of wealth and population for Kentucky, but for Louisville also. The more population in the State, the more population will be necessary at its commercial metropolis to carry on the business of supply. Thus far the prosecution of search for minerals has had the most astonishing results. Sections of the State which were thought to be fit only for farming or for restricted timber supplies have yielded coals, ores and mineral deposits of various kinds that are of the utmost importance to industries. Within 35 miles of the new gas field discovered at Cloverport are the great iron ore and coal deposits at the Falls of Rough, where also the timber is of incalculable value. These facts seem to indicate that sooner or later a great industrial town will be a necessity in the vicinity. It may be Cloverport, because gas is already a certainty there, though it is possible that gas may yet be found near Owensboro or Henderson. The Green river country is rich in every variety of mineral and natural wealth.

The trouble seems to be the lack of sufficient capital in Kentucky to develop these obvious advantages. Prof. Procter, of the geological survey, takes every opportunity to advise property owners not to make leases or sales of mineral, oil or gas lands at a merely nominal figure, because he is impressed with the fact that in a few years these resources will be vastly more valuable. Organization can effectively take the place of capital in hand in many instances, and if there was a strong and active organization of these interests in localities where they exist the necessary capital might be obtained. There may be sufficient capital already to develop, but if there is it seems to be slow about taking hold. Here in Louisville, where the Rock Gas Company is building its gas mains with home capital, it has been a very slow and weary process. If the Cloverport discovery had been made in Indiana, it would have resulted in an immediate rush to the field and in its early utilization. Capital seems to be more plentiful or at least more ready there than here. Already Kentucky companies in the Glasgow oil and gas fields have taken steps to consolidate with Cincinnati capitalists. It was necessary, perhaps, but it is unfortunate that home capital is not able or willing to utilize these great opportunities for making wealth. Kentucky will be the theater of much activity in the coming five years, and it is to be hoped that Kentuckians will make the bulk of the money that is to be made out of the development.—*M'f'rs.' Record.*

Production of Petroleum in Galicia.

The *Revue de l' Orient* gives the following account of the production of petroleum in Galicia:

"The most important springs of petroleum are found in the region of the Carpathian mountains, and along the chain of those mountains, from Grybow in the west to the frontier of Moldavia on the east. The annual product amounts to about 600,000 casks, that is to say, more than 90,000 tons. The system of working most generally in use is the Canadian system of tapping.

The setting up of a complete system of tapping does not cost £1,000. The most important centers are Bobz, where there are 42 production wells with a total yield of 2,0'0 casks a day—that is to say, 318 tons of petroleum; Vietazno, with one well yielding 200 casks; Vastova, which gives the best quality and the richest oil, containing 70 per cent. of oil for lighting purposes; Kryg, Lipinki, and Sioboda. The specific gravity of these qualities of petroleum varies from 0·92 to 0·79. Refining takes place by means of distillation, principally in order to obtain lamp oil. In several distilleries nothing is preseaved except the first produce of the distillation, that is to say, only what is obtained at a low temperature. The remainder, especially the liquid tar, is taken elsewhere to undergo a second process of distillation. In other refineries the process is pushed as far as it will go at first until there is nothing left in the retorts but coke or cinder. At 40° the distillation gives a brownish-yellow benzine, which becomes whiter and whiter until 150° is reached. Between 150° and 300° various light oils are obtained which, subject to a second distillation, produce lamp oils; beyond 300° those heavy oils are met with, from which fatty substances and paraffine are extracted. The lamp oils, on leaving the retorts, cannot immediately be distributed to the trade, being as yet neither homogeneous nor pure. They are subjected to a treatment with sulphuric acid and a solution of soda. The acid serves to remove the resinous parts, while the solution of soda removes any excess in the acid. As to the paraffine, this is commonly extracted from gross oils of a green color, having a density of 0·91. It is deposited in the form of a thick, unctuous mass, which is collected in canvas sacks to be then compressed by hand, or with hydraulic or steam presses.

"Among the principal refineries, that of Libuzza takes the first place. It produces several qualities of petroleum; 'standard white,' at 22 frs. 50 the quintal on delivery at Jagorzany; 'prime white,' at 33 frs. 75; 'superfine white,' at 25 frs.; 'water white,' at 26 frs. 25. The price of the cask is 3 fr . 75 and above per quintal of petroleum. Examined against a black background, the 'standard white' is yellower than the 'prime white'; looked at against the light it has the color of an opal. The 'water white' is perfectly transiucent, and looked at against the light appears slightly bluish. The 'standard' marks 47° R., and the firing point is 23°. This is the petroleum most generally used for lighting purposes and in commerce. In this Libuzza refinery the raw petroleums of the Kryg, Libuzza, and Lipinki regions are treated. At the Kolomea refinery the petroleums are those of Hoboda and Rofa.

"It is found that Galcian petroleums burn best in lamps with a diametrical wick, while the American petroleums give more satisfaction when used with a wick of circular form. A comparison of the yield in refined petroleum of various quauntities of petroleum from different countries gives the following result:—

"100 kilos. of Russian raw petroleum gives 45 per cent. of refined petroleum.

"100 kilos. of Galician raw petroleum gives from 50 to 52 per cent.

"100 kilos. of American raw petroleum gives from 60 to 63 per cent."

Extinguishing a Burning Gas Well.

Three weeks ago last Tuesday the Ruthven gas well was set on fire. It is supposed that the incendiary was some disgruntled laborer. The cap over the top of the pipe was so fixed that the escaping gas rushed out directly towards the ground and made safe approach to it impossible. Local mechanics found it impossible to remove the cap. Each one gave it up after the first trial. The heat was simply unendurable and grew worse every day. Gas experts from Ohio were called to the scene but they too, gave it up. The owners of the well offered $1,000 to any one who would remove the cap. William H. Marvin, a mining expert, undertook the job. He tried several schemes for removing the cap by aid of a long lever, but they all failed because his lever melted away under the fierce heat as soon as he got it near enough to work. He determined to go near enough to the well himself to cut off the cap, and Friday prepared to make the attempt. He made a suit of asbestos that proved successful, after a little tinkering. It was his purpose to go right up to the well through the gas flame and place a cold chisel against the pipe while his assistant pounded on the chisel until the cap gave way. The first attempt was a signal failure. Marvin only reached the flame, when he retreated. He wore a heavy pair of cowhide boots, covered with wet cloths, and before he got to the flame the clothes had dried and burned away, and his boots were half burned off. So great was his hurry to escape that he dropped his cutting contrivance and was dismayed to see it get red hot. In his next trial he wore rubber boots and inside these thrust his feet wound in dampened rags; outside the boats he put a heavy covering of asbestos. His coat of asbestos was cone-shaped. His arms stuck out through two holes in the cone and were wound in several thicknesses of wet cloth, which was covered with a heavy coating of asbestos. His contrivance for cutting the pipe consisted of a long, sharp chisel, fastened at right angles to an iron staff. In approaching the well he slid the cone along the ground, seeing his way through a glass set in the front. His assistant was robed like himself and carried a long iron bar, on which was fastened a small farrier's hammer. Two hundred people saw the daring men make their approach to the flame, and as Marvin disappeared in its circle a shudder swept over the onlookers. There were not a half dozen in the crowd who expected to see Marvin come out alive, but in a minute—it seemed like an age—they saw the edge of the chisel resting up against the pipe just below the cap. Almost breathlessly they watched the assistant make a stroke at the chisel in a clumsy kind of a way. He did not hit it. The second was more successful; he hit the chisel squarely, but lightly. The cone in the ring fire wavered, and a cry of "he's burned to death," went up. The cone moved, again the chisel fell, and the people could see that Marvin was coming out to get rest and air. He was nearly suffocated. His assistant lost no time in getting away from the fearful heat. When the cover was lifted off Marvin, for he was too weak to lift it off himself, he was a sight to behold; his face was scarlet and his eyes protruded like door knobs. He was half roasted, and it took him two hours to recover. Then he pluckily determined to try it again.

He had his cone thoroughly drenched and he fixed up another chisel, saying, as the cone was put over him, that he would succeed or never come out alive. Again the hammer and chisel were brought into play. All at once the roar of the well changed into a shrill whistle and the cap was blown a hundred feet upward while Marvin's cone stood at the foot of the pipe, motionless. It was some minutes before it moved and the people thought again that he had perished in his attempt. His assistant was badly burned and had to be taken to the hotel for assistance. When Marvin's cone began to move people sent up a tremendous shout, and the more venturesome ran forward as far as they could on the hot ground to reach him. He was taken out and revived. He was badly scorched, but not hurt otherwise. Later Marvin put a contrivance on the pipe to shut off the flow of gas, and now for the first time in nearly three weeks Ruthven is quiet from the deafening roar.

The Petroleum Market.

There is apparent at the present time only one bear feature in connection with the crude petroleum market, and that is to be found in the fact that all the speculators are anticipating higher prices. When they all talk that way it is safe enough to presume they are prepared for an advance, and consequently the wish is in a measure father to the thought. When all the traders are long—that is, have oil on hand—it stands to reason that they expect to sell it at better prices. They bought it with no other intention or expectation. When they are all in this condition, and there are no shorts to whom they can sell the stuff, it frequently happens that they commence trying to sell to each other. Then, as each individual speculator already has a supply, there are no buyers and the scramble to unload causes a panic. This is how it happens that the sharpest declines occur when there is a large long interest, and the longs suddenly become anxious to realize. On the other hand, when the majority of the traders are short, and something occurs to create a desire to cover, they all rush in to buy at once and of course the market advances. Thus it has come to be a saying on 'Change that "'tis always the unexpected that happens." This explains wherein the almost universal talk of better prices is a bear feature. Aside from this there is certainly very much in the outlook at the present time to warrant a belief in much better prices than have ruled for some time back. Our stock is only about 14,000,000 barrels, and this is being drawn on every day to meet the requirements of consumption. The Russian field is not so menacing as it has been, and oilmen generally have dropped Ohio oil out of the question And more potent than all this is the seeming inclination of the Standard to favor an advance. The Big House is at least passive, and does not oppose an upward movement. This may be accounted for by the fact that the Standard owns a large amount of refined oil, which it proposes to make the "Dutch" pay for, or it may be that inasmuch as many of the Standard men are themselves quite largely interested in producing, they are not averse to getting an advanced price for their product. All things considered, the prospects certainly seem favorable for better prices.—*Blizzard.*

The Fuel of the Future.

It is our belief that the use of petroleum is to play a far more important part in mining operations than it has done hitherto, though the use of oil fuel was crudely essayed as early as 1865 in this country, and also in France in 1868 with the apparent result that it could not be brought to compete with coal anywhere. The heating power was found to be very much greater than coal, but the cost of the crude oil more than over-balanced any gain in other directions. In Russia, however, petroleum soon established itself as the cheaper available fuel.

At present, the subject is reassuming public interest with the success that has attended numerous experiments made with Ohio oils of the so-called Lima district, as for example, at Detroit in the instance of the Michigan Carbon Works whose official report shows that the same industrial results were attained there by the use of Ohio oil at a cost of $862 60 that had entailed a cost of $1,300 60 with coal. Another experiment made by the Franklin Moore Company, Winsted, Connecticut, with a forge fire showed a cost of $1 22 for seven days with oil as fuel against a cost of $2 73 with coal. The Ohio Ashtabula Tool Company which employ fire in welding, tempering, brazing and general work in iron and steel requiring a quick, high heat, report through their president that they use the crude lunar oil for less than a sixth of the cost that the same work would be with coal—getting a better and more even heat than with the best Lehigh egg coal.

It is reported that the North Chicago Rolling Mill Company supplanted coal with oil last year with an established saving not only in the cost of the oil as compared with coal, but a large one in the number of men employed, or as high as $76 per day; oil which cost $1 92, achieving as much as coal that cost $2 15.—*Ex.*

Fayette's Gas Fields.

The gas fields of Fayette county promise to attain importance second to none in the country, not excepting even the great Grapeville and Murraysville fields. The recent strikes in the Bellevernon field offer the conclusive evidence upon which to base the above assertion. It has been two weeks since the big gasser came in on the Lewis Carson farm. Its pressure has shown no sign whatever of diminution but rather seems to be increasing. The Aliman well, which came in April 13th, is equally strong, and has has yet shown no signs of failing. The Philadelphia Natural Gas Company, which owns both of these wells, will put down others in this field, and after reaching gas will shut them down for use in an emergency. Preparations for piping the product of this field to Pittsburgh were made shortly after the Aliman well was brought in. Work on the new line from the Carson well will be commenced early next week. The contract for the pipe-laying has been let and preparations for an early start are progressing rapidly. The termination of the line will be South Side, Pittsburgh, where it will supply the plants of Oliver Bros. & Co., the Republic Iron Works, the Oliver Wire Mill and other manufacturing establishments.

Operations at the well of the York's Run Gas Company are progressing rapidly.

The success of the Rider well in German township, caused the Southwest Natural Gas Company to turn its attention to that territory and a number of leases were secured. No test has yet been made and will not be unless the draft upon the Grapeville supply of this company becomes so great that it will become necessary to feed the line from this end, in which event a well will be sunk at once. The same company has been attracted to the York's Run field by the activity of the York's Run Company. A few days ago an agent was sent into that region to secure leases. The agent stated that if the desired number of acres could be secured test wells would be put down immediately. He has not been successful in his venture, as nearly all of the available territory has been secured by the York's Run Gas Company.

There has been considerable mystery surrounding the operations of the Fayette and Westmoreland Natural Gas Company at Scottdale. But little is known of the intentions of the directors, but it is given out that a new test is to be made. The company sunk a well at Reagantown to the depth of several thousand feet, but they have not become dismayed at striking one dry hole and will make another test in the same neighborhood.

Drilling goes on rapidly at the Murphy well of the Virgin Run Gas Company in Franklin township. The test of the Washington county people in Dunbar Township seems to have gone by default, as has also the project of a similar company at McClellandtown, where test wells were to have been put down on the farms of Samuel Ritle and Jefferson Ache. This field is believed to promise a richer return of oil than gas.—*Connellsville Courier*

Cork Manufactures in Mannheim.

REPORT BY CONSUL MONAGHAN.

I went to Frankenthal, in the Pfalz, or Palatinate, and visited the cork works there, to learn, if possible, in what way they could draw cork bark out of Catalonia and Andalusia (provinces in Spain), Estramdura, Portugal, southwestern France, Corsica, Istria, Dalmatia, and Algeria, bring it over land and water to a far inland city, 400 miles from the sea, transship it, unpack, clean, trim, steam, cut, bore, sort, and repack ready for sale, and then reship, send it down the river to the sea and over 3,000 miles of water, and sell it in the United States at a profit. I first learned that all corks, stoppers, and life-preservers were formerly made where the cork-tree grows; that governments, especially the Spanish, embargoed all ships carrying out the raw cork, and do even to-day in some provinces. In recent years, however, the demand far outstripping Spain's power, with her slow methods, to supply, the raw material was let go. Immediately England, France, and the United States began cork manufactories. Since that time the industries has been increasing in size and number. The one I visited employs one hundred and twenty persons, men, women, and children. These work ten hours a day, and turn out in that time two hundred thousand stoppers, or about sixty millions a year. The kinds turned out are of all sizes, and are those shaped like a truncated cone, the

perfectly cylindrical, some bored for chemical and nursing-bottles, and the various ones used in the more common branches of trades.

The firm claimed to be able to compete with any other in the Empire. It ships large quantities to the United States. At the moment of my visit, in fact, leaving Mannheim on the same train with myself and bound for Frankenthal, was a man who had traveled all parts of the world, spoke half a dozen languages, and was just going to get his last orders preparatory to taking a North German Lloyd steamer for New York, whence he intended to travel all over the United States and solicit orders for corks. In company with this polyglot, I went the rounds, from the sheds where the bark is packed up in huge piles, through the steaming rooms, where it is softened, through the cutting, trimming and sorting, and packing establishments back to the office.

Unfamiliar as I am with the manufacture of these articles in the United States, I can do nothing in that most excellent way of arriving at results, drawing comparisons; I can only say I found something over one hundred persons employed in the various branches, and that, in general, these people do not seem, by any means, so skillful as ours. If I may be permitted to use the term, and I do so in no belittling sense, they seem, alongside of our people, inapt, unskillful and clumsy, and this in spite of their wonderfully developed and developing schools—industrial ones, in particular. Whether two hundred thousand corks a day is a large product for a factory employing one hundred and twenty hands and having the very best and most recently improved machines, cork manufacturers will know best.

Mr. Bender complained that it was strange but true that institutions connected with the Government and using millions upon millions of stoppers every year drew their supply of finished wares from firms in Catalonia instead of from firms at home. It is supposed that that province, just beyond the Pyrenees, in Spain, delivers the best corks and cork bark, though Mr. Bender assured me that the very best of all, that suited for the manufacture of corks for champagne bottles, comes from southwestern France. As an example he cited the State springs of mineral waters in the Prussian district of Wiesbaden, at Niederselters, which uses at least, annually, seven million stoppers, as one of those which buys all its supply in Catalonia. This he considered unjust, inasmuch as his and other German firms were producing just as good goods, and to his knowledge Catalonia's woods were not yielding and never would yield enough bark to make all the stoppers marked Catalonian; that hundreds of thousands of tons of bark and even manufactured wares are brought into Catalonia from Andalusia and Portugal, and the former manufactured there, boxed up and sold in the world's markets as the "real Catalonian, none genuine without the stamp." He expressed a hope that the Empire would soon, out of love of the Fatherland, turn round and encourage home industries by buying its cork supplies of German houses rather than from strangers in the wilds of Catalonian forests. Coming to the subject of his exports to the United States, Mr. Bender said his present ability to export thither was due mostly to the fact that the demand was greater than our manufacturers could supply. He said further that he was able, he supposed, to get cheaper and more constant labor than we could in the United States. Whether the first reason assigned is a true one is matter for our manufacturers to consider, and, if true, remedy. Labor is indeed cheap, that is, measured by the units of money; but there are those who claim that a mark (23.8 cents) will go as far here as a dollar with us. But it won't; I wish it would. The help here get from 15 to 60 cents a day. I am, of couse, speaking of persons employed in factories; tradesmen, mechanics and officials get more. Many of them come from neighboring villages and seem glad to get work at almost any price. They are as a rule rugged, healthy and strong. The fatcories are well ventilated and subjected to careful and rigorous inspection.

Boston Notes.

[Special Correspondence of OIL, PAINT AND DRUG REPORTER.]

BOSTON, July 27, 1889.

The bleach market at this writing is quoted at $1 75@1 80, according to brands; the market is firm and there is very litte stock on spot. Bichromate of potash is off one cent per pound. This decline was first reported on Tuesday, and has caused no little comment among the trade. Copperas is higher; crude saltpetre rules steady.

The Boston Dyewood Company has received this week 125 tons of logwood per schooner Umbrina from Jamaica. The Water Witch last week brought 225 tons instead of 200 tons, as was at first reported. The importations of logwood into Boston last week, as furnished by the Deputy Collector of the port of Boston, are as follows: From Jamaica, 230 tons; Porto Rico, 2½ tons; Hayti, 1¾ tons. Trade in logwood is fair, and the market is about the same.

Camwood is in little demand. Fustic is scarce with the market strong. Aniline colors are moving freely with prices steady and unchanged. Cochineal is dull and quiet. Tin crystals are quiet and prices hold steady. Hemlock bark continues in good stock with values ruling about steady.

The gambier market is strong and quoted at 7⅛@7¾c ex store in Boston. Cubes are higher at 8¼c for No. 2 and 10c for No. 1.

The market on Sicily sumac is higher, having advanced both here and abroad, with $60 quoted as the lowest price for forward shipments of certain brands. Virginia sumac is unchanged at $48@50. Advices from the manufacturers in Virginia state that prices for leaf are 15@25c higher per 100 lbs than at the same time last year. Very little leaf is coming in, and manufacturers must have it any price. There has been very little leaf gathered thus far in Virginia, owing to the nnusually hot weather.

Cutch is higher, with the tendency still upward. Quotations are as follows: Star B.6⅛@6¼c; S. M. Slab, 6⅞, and W. Q. Star, 7¼.

The turpentine market is steady. and if the present export demand continues there will likely be an advance.

The market for paints is in a very fair condition, considering the season. The consumptive demand compares favorably with last year. There is a little inquiry for lead.

The linseed oil market is in about the same condition. It looks as though oil would advance before the new crop comes into the market.

In drugs there is a fairly good demand in a wholesale way, which fully equals that of a corresponding time a year ago. Carbolic acid has a higher tendency. The best qualities of first pick gum arabic seem to be out of the market as a rule, but the second, third and fourth grades are obtainable at about the same prices. Para balsam copaiba is lower.

The tallow market is in a little better condition. Glue stock has a very dull market. The varnish trade is quiet. There is nothing new in the shellac trade.

Lard oil fails to improve in demand, and quotations are barely steady. Saponified, olive, degras, palm and paraffine oils are steady. Sperm oil is in slack request, though holders are able to maintain steady prices. The supply is fully equal to the wants of the trade. Whale oil is firm. Menhaden is in a decidedly easier position. The catch of menhaden is proving to be large, and there is no feature to hold the market up, except that there is something of an export outlet. Castor oil is quiet. Cottonseed oil continues very quiet with the market easy. Cocoanut oil is firmer.

Essential oils are unchanged, except that wintergreen is higher.

Mr. N. J. Rust, of the wholesale drug firm of Rust Bros. & Bird, is sojourning at Poland Springs, Me.

Mr. Thomas C. Porter, of the firm of Thomas C. Porter & Co., importers of chemicals, drugs and dyestuffs, is enjoying a vacation at the White Mountains, N. H.

President Tyler of the Paint and Oil Club is absent on a business trip.

Mr. F. L. Watson, of the firm of Charles Richardson & Co., has been on the sick list this week.

ALLAN ERIC.

Contracts Awarded.

The following awards have been made for supplies for the Government Printing Office:

PAINTS, OILS, ETC.

10,000 lbs glue, best quality, 11 1-10c per lb, Armour & Co.

3,000 gls benzine, best quality, deodorized, 7 3-10c per gl, Nicolai Bros.

150 gls alcohol, 95°, $2 22 per gl, J. L. Barbour & Son.

1,200 gls extra refined wood alcohol, $1 63 per gl, Otto Chemical Company.

100 gls linseed oil, 61c per gl, W. H. Butler.

25 gls boiled linseed oil, 63c per gl, do.

1,000 lbs Lewis' white lead, 6 4-10c per lb, do.

100 lbs Albany lubricating compound, No. 2, 16 3-10c per lb, R. Boyd.

12 doz boxes wax tapers, $1 per doz, Geo. Ryneal, Jr.

30 doz sweet oil, 60c per doz, D. Connell.

3 doz virgin olive oil, 59c per qt, J. L. Barbour & Son.

10 doz French book varnish, $14 per doz, Louis Dejonge & Co.

300 lbs pure beef tallow, sweet and clean, 5 6-10c per lb, E. G. Wheeler.

100 lbs white shellac, 28c per lb, H. Kohnstamm & Co.

100 lbs orange shellac, 24c per lb, Geo. Ryneal Jr.

56 lbs ultramarine blue, 15c per lb, W. H. Butler.

300 lbs pulverized alum, 3c per lb, Z. D. Gilman.

72 lbs chrome yellow, D. O., 13 5-10c per lb, Geo. Ryneal, Jr.

72 lbs chrome yellow, 13 5-10c per lb, do.

50 lbs soluble blue, 56c per lb, Z. D. Gilman.

100 ozs carmine, No. 40 in oz bottles, 29 5-10c per oz, Geo. Ryneal.

150 lbs red lake, Marbler's colors, 31 9-10c per lb, do.

200 lbs crude turpentine, 4c per lb, Z. D. Gilman.

2 boxes No. 1 glass, single thick, 10x12 in, 50 sq ft in box, $1 89 per box, Geo. Ryneal, Jr.

2 boxes No. 1 glass, single thick, 12x14, in, 50 sq ft in box, $2 10 per box, Francis Miller.

10 boxes No. 1 glass, single thick, 12x15 in, 50 sq ft in box, $2 10 per box, do.

10 boxes No. 1 glass, single thick, 12x18 in, 50 sq ft in box, $2 10 per box, do.

10 boxes No. 1 glass, single thick, 12x20 in, 50 sq ft in box, $2 10 per box, do.

DRUGGISTS' SUNDRIES.

150 lbs egg albumen, best quality, 73c per lb, Z. D. Gilman.

100 lbs blood albumen, best quality, 21 5-10c per lb, do.

2,500 lbs potash, 5 1-10c per lb, do.

1,500 lbs detergent, 4 9-10c per lb, do.

25 lbs Florida sponge, medium, $2 15 per lb, do.

25 lbs Florida sponge, small, $1 70 per lb, do.

10 lbs Venetian formes sponge, medium, $2 15 per lb, do.

1,000 lbs beeswax, best Northern, 30c per lb, G. D. Mackey.

100 lbs granulated gum arabic, 63c per lb, Z. D. Gilman.

50 lbs gum arabic sorts, 45c per lb, H. Kohnstamm & Co.

250 lbs gum hog, 43c per lb, Z. D. Gilman.

5 lbs eosine, $2 50 per lb, H. Kohnstamm & Co.

100 lbs powdered borax, 14c per lb, do.

100 lbs oxalic acid, 11 8-10c per lb, Z. D. Gilman.

20 lbs creosote, 50c per lb, do.

100 lbs stronger water ammonia, 10c per lb, do.

100 lbs pearlash, 8c per lb, Kohnstamm & Co.

200 lbs dextrine, 7c per lb, Z. D. Gilman.

Trade Matters in Brazil.

REPORT OF CONSUL GEN. ARMSTRONG AT RIO DE JANEIRO.

Oil factories.—There are many factories of different kinds of oil. The cottonseed oil factory in this city has not, I am told, proved a pecuniary success.

Lard factories.—There are several lard factories in the Empire, and their product competes with our lard in the markets of the country, being sold at about 30 per cent. less. One of these factories has been closed for several years, not having been operated successfully. One established in the province of Sao Paulo, with improved machinery imported from the United States, is said to be doing well.

American lard is preferred to the native article, but the greater cheapness of the latter, of course, promotes its consumption.

Chandleries.—Quite an old establishment is the stearine candle factory in this city. The capital invested in it is $400,000 and its annual production is estimated at $750,000, including, besides candles, soap and glycerine. It exports to Europe about 100 tons of glycerine a year. It employs 100 operatives. There are many soap and tallow-candle factories in the Empire.

Complete statistics of the import trade of this market for the year 1888 have not yet been made public. It appears that this trade was comparatively large, there being, in fact, a tendency, which still continues, to overtrading, induced, no doubt, by the favorable state of the exchange market. In the most important branch of trade, that of dry goods, the receipts were considerably larger than in the previous year, the number of packages imported being 67,828, in 1888 against 60,877 in 1887. The receipts and prices of some of the principal articles imported from the United States were as follows:

Kerosene.—Receipts from the United States, 340,215 10-gallon cases, against 322,169 in 1887 and 318,250 in 1886. Extreme quotations: 1886, $2 70@3 25 per case; 1887, $2 32@2 81 per case; 1888, $2 90@4 09 per case.

Lard.—Receipts from the United States, 35,833 kegs and 270 cases, against 51,677 kegs and 52 cases in 1887 and 52,629 kegs and 49 cases in 1886. Extreme quotations: 1886, 14½@16¾ cents per pound: 1887,15@17⅝ cents per pound; 1888, 16@21½ cents per pound.

Rosin.—Receipts from the United States, 10,706 barrels, against 4,979 in 1887 and 15,288 in 1886. Extreme quotations: 1886, 2 47@5 17 per barrel; 1887, $2 42@5 06; 1888, $2 70@6.

Turpentine.—Receipts from the United States. 5,807 cases, against 4,754 in 1887 and 5,641 in 1886. Extreme quotations: 1886, 8½@11½ cents per pound: 1887, 7¼@9 cents: 1888, 8½@12⅜ cents.

Nutmegs and Mace.

Messrs. Sigmonds & Bicker Caarten of Rotterdam, in a recent communication to the *Chemist & Druggist*, say of the position of nutmegs and mace:

The very favorable opinion of the position of nutmegs and mace in Holland is not only to be traced back to the miscrop in Banda in November-December of last year, but as much to the particularly delayed crop of 1889, the gathering of which cannot commence before November-December (being otherwise the months of the second crop), though under normal circumstances taking place in July-August.

Consequently the first arrivals of the new crop cannot reach us before February, 1890, as regards mace, and April-May as regards nutmegs. Besides this fact, the question is of vital interest to all parties concerned, whether the chief time of consumption, shortly to set in, must not also be affected, on the one side by the outturn of the failed November-December crop, and on the other hand by the delayed crop of this year, and thereby cause a consequent rise in prices. At the same time it is necessary to add that the outlook of this year's crop, leaving aside the delay, is not very rosy, the crop in Banda having suffered from continual drought, while in Penang the production of nutmegs is steadily decreasing on account of a decay among the trees, and the crop there will be of no importance.

In Menado the outlook is not much better, and though from Ambon and Papoea no news has come to us, these countries must likewise have experienced the same consequences of the long and continual drought, as the whole Indian Archipelago.

To our arguments, however, this circumstance is of little value, the Ambon quality being deviating, and Papoea only growing wild spices.

Leaving West India, with its limited production, aside, only Padang remains. Nothing detrimental to the crop has been reported, but on the other hand the yearly export only amounts to about 1,500 piculs prime quality.

As regards the stock of yearly arrivals of nutmegs in Holland during these seven years averaged 546,614 kilos.; deliveries during the same period per year, 517,800 kilos.; and the proportion is similar in London and America.

The yearly deliveries are: in

		kilos.
Holland....	about	518,000
U.S.A.....	"	475,000
London	"	320,000

about 1,313,000 (yearly production,) wild nutmegs and mace included, about 1,320,000

The present prices for nutmegs are not at all high, taking circumstances into consideration.

In June 1887 (according to our statement the biggest crop year) importers realized:—

For 80-85's	to the hf-kilo	200c,	present price	184c
" 95-100's	"	"	185c,	"	180c
" 100-105's	"	"	181c,	"	177c

Contrary to the expressed opinion, we consider the outfall of the crop in no way anticipated by the present range of prices. We fear that the changed circumstances have to be taken into account for years to come, as the increase of production has been checked, on account of thousands of trees being totally destroyed, and mostly those of 8 to 15 years, which have all to be replaced. A nutmeg tree does not produce any fruit before its eighth year, and one of the twenty-five years has not even attained its full growth; the planters count them still to the "young" trees.

After all it would be extremely interesting to learn which field a syndicate—in view of the reduced stocks—could find for its operations. Should, however, such a thing really exist and, at the same time be "provided with abundant means," this, in conjunction with the described particulary sound position, should only favor the already unavoidable increase in value.

The English Petroleum Markets.

London.—The market has been in a quiet condition during the past week, and, as it is the slackest part of the year, sellers have been more disposed to realize, and quotations are a shade lower. American refined rules on the spot at 5¾d@6¼d, and September-December at 6⅛d@6¼d. Russian, however, is steadier, owing to the delay in shipments, and spot is worth 5 9-16d@5⅝d, and September-December 5⅞d@6d der gallon.

Petroleum oil in London for the twenty-eight weeks ended July 15, with comparative stocks at that date:

	1889.	1888.	1887.
LANDINGS.	Bbls.	Bbls.	Bbls.
Petroleum oil.....	473,528	439,308	403,898
Crude oil.....	14,337	10,012	5,965
Petroleum spirit.....	16,089	14,361	17,870
DELIVERIES.			
Petroleum oil.....	428,373	398,586	377,058
Crude oil	13,937	9,186	7,002
Petroleum spirit.....	15,872	15,023	17,104
STOCKS.			
Petroleum oil	156,900	104,863	125,567
Crude oil.....	6,536	5,290	4,274
Petroleum spirit.....	5,209	5,851	3,313

Stock account of petroleum oil in London, issued by the Petroleum Association from returns made by the wharfingers, for the week ending Wednesday, July 17:

	Stock, July 10.	Landed.	Total.
	bbls.	bbls.	bbls.
Atlantic	23,911	5,436	29,347
Dudgeon's	16,928	6,160	23,088
Palmer's.....	43,633	4,710	48,343
Rowatt's.....	9,389	499	9,888
St. Leonard's.....	21,176	....	21,176
Thames Haven & Abbey Mills.....	17,840	4,875	22,715
Totals .	132,877	21,680	154,557

	Delivered.	Stock, July 17.
	bbls.	bbls.
Atlantic.....	1,851	27,496
Dudgeon's.....	821	22,267
Palmer's.....	2,491	45,852
Rowatt's.....	851	9,037
St. Leonard's.....	839	20,337
Thames, Haven & Abbey Mills.....	1,202	21,513
Totals....	8,055	146,502

Liverpool.—There is less steadiness than heretofore in this market, and business being very slow, as is customary at this period of the year, sellers have been more anxious to realize.—*London Grocer.*

has a depressing effect upon holders of foreign and they seem disposed to shade prices as an inducement to buyers, but quotations for domestic grades remain steady and unchanged.

Miscellaneous.

Sulphate of barytes sells to a moderate extent, the demand being almost wholly of a jobbing character. The tone of the market is steady and prices are maintained. We, therefore, repeat our quotations of $5 50 for No. 1 crude, $7 75 for No. 2 and 7 50 for No. 3, these prices being for goods to arrive ex vessel. For refined and float quotations are the same as those last given.

Chalk is not wanted as whiting manufacturers are still liberally supplied. Prices are entirely nominal.

China clay continues to sell fairly for the season, though buyers give the preference to the better grades, poorer qualities receiving little or no attention. Prices are steadily maintained on the basis of former quotations.

Talc is extremely dull, and prices are nominally the same as at the date of last writing.

Terra alba has a moderate jobbing outlet, but there is little or no inquiry for larger lots. Former quotations will not be shaded.

Whiting is in the usual demand, business being restricted for the most part within jobbing limits. The tone of the market is steady and we make no change in our quotations.

Glass.

WINDOW GLASS.

The demand for window glass may be called good for this time of the year, but at the same time small orders are much more numerous than large ones. The market is firm for both domestic and imported, but as yet there has been no reportable change in the discounts of either. A meeting of the Importers Association is to be held next week, when it is expected that an advance in quotations will be made, reports from abroad as well as the condition of the market here, warranting higher prices. In the event of a rise in the price of French sheet, an advance in the price of American is probable.

PLATE GLASS.

The condition of the market for plate glass continues about the same as for some time past. There is a fair demand, but prices are very unsatisfactory, sharp competion, however, preventing any improvement for the present.

The well known stock brokerage firm of Messrs. F. L. & L. Haight of which Mr. Edward H. Jewett recently became a member are making a specialty of Lead Trust Certificates, in which department Mr. Jewett will be thoroughly at home. An announcement of the firm will be found in another column.

Canadian Tariff Changes.

Alizarine, blood albumen, arseniate, bi-arseniate, chlorate and stannate of soda, tannic acid, tartar emetic, chlorate of potash crystals, gum gedda, gum barberry, grey tartar, fustic extract, and quercitron or extract of oak bark, when imported by the manufacturers of cotton and woolen goods for use in their own factories only; and grey tartar, fustic extract, and quercitron or extract of oak bark, for the manufacture of colors, are admitted free of Customs duty until the end of the next session of Parliament.

Sulphate of alumina and alum cake, used as a substitute for alum by paper-makers, are placed on the list of articles that may be imported into Canada free of Customs duty.

Sumac, when imported to be used for dyeing or tanning purposes, *i.e.*, manufacturing purposes, not further manufactured than crushed or ground, is placed on the list of articles that may be imported into Canada free.

Camwood, when imported to be used for dyeing or tanning purposes, *i.e.*, manufacturing purposes, not further manufactured than crushed or ground, is also placed on the list of free articles.

Red Lead and Peroxide of Lead.

Most commercial red lead consists of a mixture of oxide of lead with pure red lead. A small proportion of carbonate of lead is also generally present, formed by exposure to air after manufacture. To remove the free oxide of lead from commercial red lead various substances have been recommended, such as a solution of sugar of lead, or cold dilute acetic or nitric acid. Sugar of lead does not remove the carbonate of lead, while in the case of acetic and nitric acids there is danger of peroxide of lead being separated. The author recommends the use of a 10 to 12 per cent solution of nitrate of lead; 200 to 300 c.c. are sufficient for 20 grms. of red lead. This solution removes not only the oxide of lead, but also the carbonate and any traces of metallic lead. The red lead should be first digested for a considerable time, and then boiled with the nitrate of lead solution. The percentage of free oxide of lead in the samples examined varied from 16 to 31 per cent. The purified red lead is brighter in color than the original sample. Nine samples of purified red lead were examined as to the percentage of peroxide of lead obtained from them by digestion with dilute nitric acid. They yielded from 25·4 to 25·7 per cent PbO_2. This agrees with the results obtained by Mulder, Phillips, Houton-Labillardiere and Pichon, and points to the formula Pb_4O_5 for red lead, instead of the usually accepted formula Pb_3O_4, which requires 34·88 per cent of PbO_2. At the same time it is probably possible by long-continued burning to obtain Pb_3O_4; for Dumas found that a sample of red lead, after three burnings, contained 33·2 per cent PbO_2. In the formation of red lead, not only the temperature but also the duration of the heating is of importance. As long as free PbO is present, and the composition of the color is Pb_4O_5, there is much less danger of the red lead being spoiled, owing to the formation of Pb_2O_3, than when the color has the composition Pb_3O_4. The suggestion that red lead is a mixture of Pb_3O_4 and Pb_4O_5 is not compatible with analytical results. It is pretty certain that both compounds exist, but a red lead containing free PbO seems to have the composition Pb_4O_5.—*Dingl. Polyt.*

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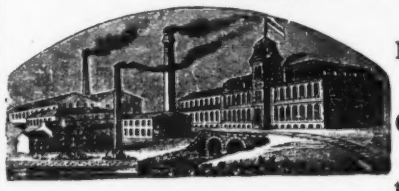
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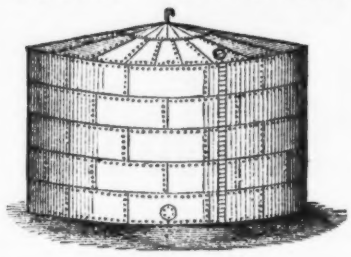
Cleveland, Ohio.

Wm. Graver Tank Works,



IRON STORAGE

TANKS

A SPECIALTY.

OFFICE:
334 Rookery Building,
CHICAGO, ILL.

THE AMERICAN COTTON OIL CO.,

OF OHIO.

(SUCCESSORS TO JOHN V. LEWIS & CO.)

Cincinnati, Ohio.

Manufacturers of all Grades of

Cotton Oil.

Crude Cotton Oil,
Summer Yellow Cotton Oil,
Summer White Cotton Oil,
Winter-Strained Cotton Oil,
White Cottonseed Stearine,
Yellow Cottonseed Stearine,
Cottonseed Soap Stocks.

Winter Miners' Oil and Bewers' Lamp Oil (White and Yellow,) Especially prepared for burning purposes and guaranteed to remain bright and limpid at 32 deg, Fahr.

Empire Salad Oil. A strictly Winter-Strained Oil, especially prepared for Druggists' and Culinary purposes, guaranteed to remain bright and limpid at 32 deg. Fahr.

A. C. O. Co., J. V. L. & Co. and I X L Cooking Oils, purely vegetable Recommended to and extensively used by bakers, hotels and private families.

Owing to our close connection with the manufacturers of the crude oil and our superior facilities, we are in a position to defy competition and to furnish our products at lower prices than can be made by other refiners.

QUOTATION FURNISHED UPON APPLICATION.

Pratt's Deodorized Stove Gasolene.

DEALERS in Gasolene Stoves are aware of the importance of having a pure and reliable article of gasolene to supply to their customers. As ordinarily prepared by refiners, Deodorized 74° Gasolene fails to give entire satisfaction, from its liability to gum and clog the burners. Wherever this occurs, endless annoyance ensues, and dissatisfaction with the stoves is the inevitable result. All this may be avoided by the use of **Pratt's Deodorized Stove Gasolene,** which is refined with the greatest care to insure absolute purity, and with due regard to the requirements of these stoves. Dealers can furnish this to their customers with the confidence that it will give perfect satisfaction. We guarantee that it will neither clog the burners nor emit any offensive odor.

At the request of many prominent manufacturers of these stoves, who were desirous that their patrons should know where to obtain the best article of gasolene, we take this means of informing the trade that we will furnish **Pratt's Deodorized Stove Gasolene** in any desired quantity, and packed either in barrels, half barrels, or in five-gallon cans and cases.

Address all orders and inquiries to

Pratt Manufacturing Company

26 BROADWAY, NEW YORK,

SOLE PROPRIETORS AND REFINERS OF PRATT'S ASTRAL OIL.

The Margarine Trade in St. Petersburg.

The *Journal de St. Petersbourg* says that the St. Petersburg Municipal Council at a recent sitting voted the following decree relative to the trade in margarine:

1. Under the designation of "margarine" are included all artificial mixtures, whatever may be their quality, in which the presence of fat not extracted from milk may be ascertained.
2. Margarine shall only be sold under the name which is assigned to it.
3. Margarine stores should have special signs with the inscription, in white letters on a red ground, "Sale of margarine." The product must be contained in receptacles painted red and bearing the legible inscription "Margarine." The covers, boxes, baskets, &c. in which the article is delivered to the purchasers should also bear the inscription "Margarine."
4. The sale of margarine is absolutely forbidden in stores and shops where pure butter is sold.

Singapore Trade in Kerosene Oil.

A report dated 10th April last, from the Singapore Colonial Secretary, encloses copy of a review of the trade in kerosene oil in Singapore for the year 1888, and also a quarterly circular on the same subject for the first three months of the present year. The following particulars are extracted from the statements in question:

The total imports for the last five years have been as follows: In 1888, 408,994 cases; 1887, 166,150 cases; 1886, 780,660 cases; 1885, 324,000 cases; and in 1884, 332,400 cases.

The stocks on the 31st December in each of the undermentioned years were: In 1888, 162,300 cases; 1887, 85,000 cases; 1886, 350,000 cases; 1885, 22,000 cases; 1884, 28,000 cases.

The estimated consumption and export in 1888 amounted to 331,694 cases; in 1887, to 431,150 cases; and in 1886 to 452,660 cases.

The principal feature of interest in the trade during the year under review has been the import for the first time of oil from the Black Sea. This new oil field, lying so much nearer than that of America, and worked exclusively by steamer via Canal, renders the market liable to the influx of supplies on much shorter notice than Singapore has been accustomed to, and promises to change the aspect of the trade. America also has, in 1888, begun to send steamer shipments via canal.

During the year cost and freight prices in the States have ruled high, owing to the policy adopted by producers in curtailing supplies, supplemented by scarcity of tonnage suitable for the Straits, and a consequent rise in freights.

A favorable opportunity has thus presented itself for the introduction of Russian oil, which is cheaper, and is proving marketable, and unless America lends itself to the altered state of affairs, it may to a great extent lose the Singapore trade.

From the quarterly circular it appears that the stocks at Singapore on the 31st December 1888, were 162,300 cases, and the arrivals during the first three months of the year were 50,000 cases, giving a total of 212,300 cases. The stock on the 31st March last were 83,000 cases, so that the consumption and export during the quarter ended 31st March must have been 129,300 cases.

Conversion of Oleic into Stearic Acid.

BY P. DE WILDE AND A. REYCHLER.

By heating oleic acid with 1 per cent. of iodine in sealed tubes to 270°—280° a mixture of fatty bodies results, containing 70 per cent. of stearic acid. This fatty acid can be separated by melting the contents of the tubes with tallow soap, boiling with acidulated water, and then distilling with superheated steam. One-third of the iodine is obtained as hydriodic acid in the resulting liquors, but the remainder is difficult to recover, being retained in the tarry residue formed. Bromine acts similarly, yielding a solid acid melting at 51·5° whilst with chlorine an acid melting at 31·5° results. The addition of colophony facilitates the reaction in each case. It is suggested that the unsaturated oleic acid first takes up iodine and then hydriodic acid is given off, and this acts upon the oleic acid with the formation of stearic acid and regeneration of iodine.—*Jour. Soc. Chem. Ind.*

Export of Alcohol from Russia.

The Russian *Grajdanine*, basing its remarks on the latest publications of the Russian excise department, points out that the export of Russian alcohol is increasing year by year. The maximum attained in 1887 was three times the average of the export of the last 10 years (2,616,222 vedros per annum); the average of the export of the last five years is 56 per cent. lower than that of 1887, which itself is 5·2 per cent higher than that of 1886. The quantity exported equivalent to 19·8 per cent. of the entire alcohol manufactured in Russia in the course of the year. Two-thirds of the total quantity exported (6½ million vedros) were supplied by Poland and the Baltic Provinces.

TIDE WATER OIL CO.

Successor to

Ocean Oil Co., Chester Oil Co.,
Lombard, Ayres & Co., Polar Oil Co.

Manufacturer of all Products of Petroleum.

This company with greatly increased facilities, will continue the business of the companies it has succeeded.

The **DOMESTIC DEPARTMENT** for the sale of Illuminating Oils and Naphtha is in charge of **MR. C. W. BURTON,** formerly of the Chester Oil Co.

The **PARAFFINE AND LUBRICATING DEPARTMENT,** for the sale of Paraffine Oil, Wax and general Lubricating Oils, is in charge of **MR. G. A. KEENEY,** formerly of the Polar Oil Co.

Correspondence should be directed to the department to which it pertains.

GENERAL OFFICE: 12 Broadway, New York.

WORKS: Bayonne, N. J., Thurlow, Pa.

THE NATIONAL REFINING CO.,

Filtered and Steam Refined Cylinder Stocks and Cold Test Cylinder Oils,

"SUPREME LIGHT" BURNING OIL,

Best in the World.

RAILROAD OILS A SPECIALTY.

Offices: WADE BUILDING, **CLEVELAND OHIO.**

100 bbls, order, str, Richmond
33 pgs, Kuh & T, D, L & W RR
16 pgs, G Vandenhove, Vt C RR
TAR—25 bbls, G Potter & Co, sch, Georgetown
36 bbls, Z Mills, sch, Georgetown
51 bbls, forward, str, Wilmington
315 bbls, order, str, Wilmington
6 bbls, Z Mills, str, Richmond
72 bbls, W H Wiggins, str, Richmond

WILMINGTON DOMESTIC RECEIPTS

For week ending July 26.

ROSIN—2,584 bbls, Inland
TAR—574 bbls, Inland
TURPENTINE SPIRITS—1,773 cks, Inland
CRUDE—394 bbls, Inland

CHARLESTON DOMESTIC RECEIPTS

For week ending July 27.

CLAY—78 cks, S C RR
PHOSPHATE ROCK—34 cars, N E RR
ROSIN—628 bbls, S C RR
187 bbls, C & S RR
327 bbls, N E RR
SPTS TURP—402 cks, S C RR
127 cks, C & S RR
409 cks, N E RR

BOSTON DOMESTIC RECEIPTS

For week ending July 27.

GREASE—255 bbls, B & A RR
37 bbls, O C RR
12 pgs, by sea
60 bbls, G J RR
14 bbls, N Y & N E RR
105 bbls, B & M RR
5 bbls, B & P RR
OLEO—152 pgs, B & P RR
TALLOW—13 bbls, B & A RR
7 pgs, B & P RR
58 bbls, 5 pgs, O C RR
42 bbls, 24 pgs, B & M RR
55 bbls, F RR

SAVANNAH DOMESTIC RECEIPTS

For week ending July 27.

CEMENT—44 bgs, C RR
CLAY—2 cks, C RR
GREASE, LUB—1 bx, S F & W RR
OIL COTTONSEED—5 tanks, C & S RR
PHOSPHATE ROCK—9 cars, S F & W RR
4 cars, C & S RR
SOAP—15 bxs, C RR
STARCH—5 bxs, C RR
WAX—2 bxs, 114 lbs, C RR
6 bxs, S F & W RR
ROSIN—3,087 bbls, C RR
104 bbls, C & S RR
8,442 bbls, S F & W RR
21 bbls, Fernandina
SPTS TURP—768 bbls, C RR
50 bbls, C & S RR
3,350 bbls, S F & W RR
39 bbls, Fernandina
CDUDE—72 bbls, S F & W RR

NEW ORLEANS DOMESTIC RECEIPTS.

For week ending July 26.

ACID—100 cbys, Cin
SULPH—1 car, L & N RR
CANDLES—150 bxs, Cin
CASCARA SAGRADA—53 sks, S P RR
COTTONSEED—267 sks, Shreveport
MEAL—6,470 sks, L, N O & T RR
400 sks, T & P RR
111 sks, Shreveport
1 car, N O & N E RR
GASOLINE—1 tnk, L & N RR
GLUE—103 bbls, S P RR
GUANO—1 car, L, N O & T RR
GLUCOSE—150 bbls, Ill Cent RR
50 bbls, str, St Louis
50 bbls, L, N O & T RR
OIL—75 bbls, St Louis
150 bbls, 3 cars, L, N O & T RR
84 bbls, L & N RR
35 bbls, str, Monroe
CAKE—1 car, L, N O & T RR
1,750 sks, T & P RR
PAINT—32 kgs, Cin
ROSIN—5 cars, N O & N E RR
SOAP—800 bxs, Ill Cent RR
20 bxs, str, St Louis
STOCK—117 bbls, S P RR
STEARINE—5 bbls, Ill Cent RR
STARCH—60 bbls, Cin
TALLOW—2 bbls, Bayou Sara
2 bbls, Lockport
11 bbls, Shreveport
TURPENTINE—1 car, N O & N E RR
WAX—1 sk, S P RR
WHITE LEAD—250 kgs, St Louis

EXPORTS FROM NEW YORK FOR THE WEEK ENDING JULY 29.

ACID BORACIC
1 bx $9 Portia, St Johns N F

ACID CARBOLIC
1 cs $38 Sarapis, St John, P R
1 cs $36 Cienfuegos, Vera Cruz

ACID MURIATIC
1 cby $5 Sarapis, St John, P R

ACID STEARIC
28 bbls $495 Wm Jones, St Domingo City

ACID SULPHURIC
6 cs $20 Orinoco, Hamilton
6 cbys $30 Earnmoor, La Guayra
2 cbys $8 Sarapis, St John, P R
3 cbys $9 Portia, St Johns N F

ALCOHOL WOOD
10 gls $7 Colon, Amapoia
1,836 gls $735 Finance, St Thomas

ALUM
4 kgs $10 Cienfuegos, Progreso

AMMONIA
1 dm $83 Earnmoor, La Guayra
4 cs $6 Portia, St Johns N F

ACID SULPHATE
1 bx $28 Werra, Bremen

ANILINE COLORS
2 cs $229 S of Indiana, Glasgow

ANISEED
3 bgs $21 Wm Jones, St Domingo City

BARK
502 bgs $1,021 La Champagne, Havre
6 bgs $152 Greece, London
1 bl $36 Alaska, Liverpool
1,027 bgs $1,800 Augusta Victoria, H'burg
2 bbls $32 Portia, Halifax

BORAX
2 bbls $50 C of Atlanta, Havana
1 bbl $35 C of Atlanta, Sagua
1 bbl $29 Habana, Vera Cruz

CANDLES
32 pgs $58 Orinoco, Hamilton
1 cs $30 La Champagne, Havre
6 cts $60 Caroline Miller, Cape Hayti
10 pgs $91 Wm Jones, St Domingo City

CARBON BLACK
12 bxs $60 S of Indiana, Glasgow
10 bbls $40 Greece, London
151 bbls $227 California, Hamburg
50 bbls $250 C of Rome, Liverpool
210 bbls, $2,100 Westernland, Antwerp

CASCARILLA BARK
2 bbls $17 Augusta Victoria, Hamburg

CASCARA SAGRADA
80 pg $1,550 Marsala, Hamburg
45 bls $700 Greece, London
2 bls $50 Augusta Victoria, Hamburg
19 bls $300 Circassia, Glasgow

CASSIA
1 bl $11 C of Atlanta, Havana
20 bls $80 Habana, Havana

CEMENT
11 bbls $30 Hattie Darling, Nassau
22 kgs $245 C of Atlanta, Havana
400 bbls $960 C of Atlanta, Sagua
40 bbls $110 Island, Copenhagen
100 bbls $100 Carrie B, St John N B
105 bbls $210 Wm Jones, St Domingo City
100 bbls $225 Cienfuegos, Havana
500 bbls $1,075 Edith Hough, Trinidad
9 pgs $82 Portia, Halifax
10 bbls $20 Westernland, Antwerp
705 bbls $1,344 Habana, Havana

CHALK
5 bbls $6 Habana, Havana

CINNAMON
10 bls $243 Cienfuegos, Havana

COTTONSEED
402 bgs $426 Etruria, Liverpool

COTTONSEED CAKE
150,800 lb $2,212 Marsala, Hamburg

COTTONSEED MEAL
151,600 lb $1,897 Wieland, Hamburg

DRY PAINT
1 cs $13 Cienfuegos, Havana
9 bbls $20 Egypt, Liverpool

DYESTUFF
3 cs $128 S of Indiana, Glasgow

DYEWOOD EXTRACT
100 cs $444 Malabar, Shanghai
1,084 pgs $6704 Wieland, Hamburg
5 pgs, $45 Cienfuegos, Vera Cruz

EARTH PAINT
167 pg $466 Carrie B, St John N B
15 pgs $21 Portia, Halifax

ETHER
1 bx 11 Colon, Punta Arenas

FLAVINE
20 bxs $300 Alaska, Liverpool

GASOLINE
1,000 gls $345 Nebo, Sydney

GLUCOSE
30,000 lb $700 Exeter City, Bristol
28,577 lb $600 Italia, Glasgow
27,355 lb $830 Santiago, Hull
2,495 lb $72 Etruria, Liverpool
93,021 lb $3,000 Greece, London
74,573 lb $1,950 Nebo, Sydney
92,572 lb $2,198 Ravensheugh, London
145,547 lb $3,038 Circassia, Glasgow
12,000 lb $262 C of Rome, Liverpool

GLUE
60 bbls $653 Westernland, Antwerp
2 pgs $105 Nebo, Sydney
1 cs $20 Trave, Bremen
1 bbl $24 Cienfuegos, Havana
2 bbls $59 Cienfuegos, Progreso
37 bbls $868 S of Indiana, Glasgow
3 bbls $89 Portia, St Johns, N F
2 bbls Habana, Progreso

GRAPE SUGAR
89,600 lb $1,904 C of Chester, Liverpool
234,000 lb $5,040 Pennsylvania, London
494,080 lb $10,940 Greece, London
291,200 lb $6,720 Ravensheugh, London

GREASE
446 lb $16 Earnmoor, La Guayra
84,892 lb $3,792 Marsala, Hamburg
45,546 lb $1,705 Circassia, Glasgow
2,521 lb $92 C of Atlanta, Havana
6,720 lb $135 Nebo, Sydney
39,654 lb $1,664 California, Hamburg
51,000 lb $2,200 Wieland, Hamburg
1,123 lb $444 Cienfuegos, Progreso

GUM DAMAR
1 ck $453 C of Atlanta, Havana

LAMPBLACK
11 bbls $80 Nebo, Sydney
2 bbls $7 Habana, Vera Cruz

LICORICE ROOT
4 bls $51 Portia, Halifax

LIME ACETATE
988 bgs $2,475 Marsala, Hamburg
188 bgs $220 Circassia, Glasgow
722 bgs $740 California, Hamburg

LIME CHLORIDE
6 cs $40 Finance, Santos

LUBRICATING GREASE
648 lb $13 C of Atlanta, Havana
1,554 lb $62 Habana, Nuevitas

MATCHES
15 cs $450 E S Newman, St Pierre
10 cs $130 Talisman, St John's, Ant
4 cs $52 Caroline Miller, St Marc
6 cs $140 Habana, Vera Cruz

OIL ANIMAL
2 cs $60 Cienfuegos, Vera Cruz

OIL CAKE
352,982 lb $4,500 Exeter City, Bristol
1,807,636 lb $22,790 Greece, London
355,099 lb $4,665 Circassia, Glasgow
947,797 lb $1,232 O Hogarth, London
22,200 lb $278 Italia, Glasgow

OIL COCOANUT
7 tcs $267 Earnmoor, La Guayra

OIL CODLIVER
1,932 gls $702 Finance, Pernambuco
225 gls $90 Finance, Maranham
2,524 gls $618 Cienfuegos, Vera Cruz

OIL COTTONSEED
4,925 gls $2,200 Panama, Bordeaux
300 gls $150 Finance, Rio Janeiro
295 gls $148 Finance, Santos

OIL CURRYING
50 bbls $6,918 Greece, London

OIL ESSENTIAL
3 cs $590 La Champagne, Havre
40 cs $2,504 Ravensheugh, London
1 bbl $8 Carrie B, St John, N B

OIL FISH
440 gls $110 P Caland, Amsterdam
742 gls $174 La Champagne, Havre
35,400 gls $8,035 Circassia, Glasgow
616 gls $154 Westernland, Antwerp

OIL LARD
154 gls $78 Orinoco, Hamilton
2,508 gls $1,354 Greece, London
1,000 gls $630 Cienfuegos, Vera Cruz
1,254 gls $677 Egypt, L'pool
100 gls $59 Finance, Rio Janeiro

OIL LINSEED
525 gls $184 Cienfuegos, Vera Cruz
85 gls $51 Habana, Vera Cruz

OIL LUBRICATING
17,699 gls $2,950 Exeter City, Bristol
2,368 gls $1,314 Finance, Rio Janeiro
23,250 gls, $3,400 Santiago, Hull
49,850 gls $7,000 Pennsylvania, London
1,708 gls $483 Nebo, Sydney
2,537 gls $505 Ravensheugh London
150 gls $22 Colan, La Libertad
130 gls $25 Island, Copenhagen
3,765 gls $675 Island, Stettin
3,508 gls $975 La Normandie, Havre
718 gls $54 Carrie B, St Johns N B
2,619 gls $1,572 Alaska, L'pool
12,627 gls $3,317 F Whitmore, Buenos Ayres
400 gls $192 Nebo, Sydney
480 gls $210 Panama, Bordeaux
39,696 gls $4,678 California, Hamburg
50,243 gls $7,600 Wieland, Hamburg
30 gls $10 Cienfuegos, Vera Cruz
14,950 gls $2,100 S of Indiana, Glasgow
201 gls $51 Portia, St John's, N F
169,572 gls $19,914, Egypt, Liverpool
1,475 gls $250 C of Chester, Liverpool
11,307 gls $2,005 Westernland, Antwerp
2,500 gls $1,000 Finance, Rio Janeiro
50 gls $24 Finance, Maranham
50 gls $26 Finance, Santos
13,000 gls $1,040 E Walsh, Halifax
2,705 gls $2,272 Wyoming, Liverpool

OIL MEAL
13,875 lb $210 E S Newnan, St Pierre
5,275 lb $360 Talisman, St Johns Ant
40,000 lb $570 W & H Wortherspoon, Guadeloupe
137,500 lb $2,128 Edith Hough, Trinidad

OIL MINERAL
1,003 gls $151 Finance, Para

OIL NEATSFOOT
52 gls $42 C of Atlanta, Havana

OIL OLEO
16,500 lb $1,650 La Champagne, Havre
52,921 lb $4,842 Marsala, Hamburg
52,438 lb $5,509 Augusta Victoria, Hamburg
231,484 lb $21,645 P Caland, Rotterdam
81,180 lb $8,418 P Caland, Amsterdam

OIL PAINT
500 gls $89 Finance, Santos

OIL PALM
1 bbl $25 Colon, Corinto

OIL PARAFFINE
242 gls $36 Earnmoor, La Guayra
50 gls $10 Edith Hough, Trinidad

OIL PEPPERNINT
1 cs $61 Etruria, Liverpool
1 cs $50 Augusta Victoria, Hamburg

OIL WINTERGREEN
1 cs $175 Ravensheugh, London

OIL WHALE
54 gls $26 Cienfuegos, Progreso

PARAFFINE
1,458 lb $79 Cienfuegos, Vera Crux

PARAFFINE WAX
44,750 lb $2,800 Exeter City, Bristol
31,277 lb $1,407 Marsala, Hamburg
33,099 lb $1,660 Circassia, Glasgow
141,690 lb $6,869 California, Hamburg
9,575 lb $814 Cienfuegos, Vera Cruz

PEPPER
1 bg $20 Colon, Panama
4 bbls $84 C of Atlanta, Havana
3 pgs $58 Caroline Miller, Cape Hayti
4 bg $16 Caroline Miller, Pt du Paiz
4 bgs $31 Wm Jones, St Domingo City
2 cs $20 Cienfuegos, Vera Cruz
30 bgs $170 Habana, Havana

PIMENTO
2 bgs $12 Wm Jones, St Domingo City

PITCH
100 bbls $180 Carrie B, St John, N B
5 bbls $7 Edith Hough, Trinidad
50 bbls $72 Portia, St Johns N F
14 bbls $18 Habana, Havana

POTASH
20 cks $600 La Champagne, Havre
5 bxs $15 Greece, London
2 cks $23 C of Atlannta, Havana

QUERCITRON EXTRACT
1,000 bxs $3,237 Augusta Victoria, H'burg

ROSIN
250 bbls $800 Italia, Glasgow
75 bbls $190 Earnmoor, La Guayra
207 bbls $484 Nebo, Sydney
407 bbls $1,023 E S Powell, Rio Janeiro
237 bbls $681 Circassia, Glasgow
6 bbls $19 C of Atlanta, Sagua
150 bbls $600 Carrie B, St John, N B
250 bbls $1,375 F Whitmore, Buenos Ayres
230 bbls $705 Nebo, Sydney
401 bbls $947 Wm Jones, St Domingo City
20 bbls $60 Cienfuegos, Vera Cruz
228 bbls $624 S of Indiana, Glasgow
125 bbls $450 Portia, Halifax
50 bbls $190 Finance, Rio Janeiro
413 bbls $1,194 Maud Scammel, Montevideo
5 bbls $6 Habana, Havana

ROOTS
1 bg $21 La Champagne, Havre
1 bbl $7 Augusta Victoria, Hamburg
2 bbls $75 Ravensheugh, London
2 cs $932 C of Chester, Liverpool

SOAP
23 pgs $73 Orinico, Hamilton
610 pgs $2,556 Exeter City, Bristol
1 cs $35 Finance, Rio Janeiro
1 cs $15 Malabar, Yokohama
1,725 pgs $4,082 Greece, London
71 cs $1,843 Nebo, Sydney
4 cs $54 Circassia, Glasgow
240 bxs $360 Colon, Colon
404 bxs $671 Colon, Panama
2 cs $90 C of Atlanta, Havana
1,850 bxs $1,925 Caroline Miller, Cape Hayti
100 bxs $58 Caroline Miller, St Marc
200 bxs $116 Caroline Miller, Pt du Paix
10 bbls $289 Alaska, Liverpool
1 cs $13 Portia, Halifax
49 pgs $142 Portia, St John's, N F
2 bxs $20 Egypt, Liverpool
1 cs $5 C of Chester, Liverpool
200 pgs $210 Finance, Para
6 bbls $127 Finance, Santos
1 cs $10 Finance, Rio Janeiro

SODA BICARB
1 kg $5 Caroline Miller, Pt du Paix

SODA CAUSTIC
4 dms $7 Colon, Corinto

SODA NITRATE
75 bgs $550 E Walsh, Halifax

SODA SILICATE
3 bbls $27 Colon, Corinto

SPERMACETI
1,266 lb $300 La Champagne, Havre
615 lb $141 Augusta, Victoria, Hamburg
1,845 lb $425 De Ruyter, Antwerp

SPONGE
43 bls $975 Westernland, Antwerp
12 bls $350 Greece, London
25 bls $176 Wieland, Hamburg

STARCH
4 pgs $16 Orinoco, Hamilton
25 bxs $57 Finance, Santos
280 bgs $560 Greece, London
1,200 bxs $1,517 Formosa, Buenos Ayres
2 bbls $27 Cienfuegos, Vera Cruz
10 bbls $125 S of Indiana, Glasgow
3 bbls $46 Finance, Santos
1,000 bxs $1,249 Maud Scammell, Montevideo

STEARINE
388,207 lb $22,594 Westernland, Antwerp

TALC
1 bx $5 C of Atlanta, Havana

TALLOW
147 lb $8 Earnmoor, La Guayra
17,458 lb $783 Santiago, Hull
11,660 lb $540 La Champagne, Havre
28,821 lb $1,417 Marsala, Hamburg
60,000 lb $2,400 Greece, London
32,912 lb $1,237 Augusta Victoria, Hamburg
179,700 lb $7,552 Circassia, Glasgow
3,848 lb $185 Colon, Corinto
2,0 lb $11 Colon, Amapoia
54,000 lb $2,800 P Caland, Amsterdam
35,060 lb $3,100 California, Hamburg
99,818 lb $4,689 Wm Jones, St Domingo City
64,016 lb $4,405 California, Hamburg
24,700 lb $300 Augusta Victoria, H'burg
33,124 lb $1,286 Wieland, Hamburg
3,593 lb $256 Cienfuegos, Vera Cruz
5,556 lb $332 Cienfuegos, Progreso

57,000lb $2,700 S of Indiana, Glasgow
24,173lb $1,161 Habana, Vera Cruz
708,160lb $27,766 P Caland, A'dam

TAR

6 bbls $24 Earnmoor, La Guayra
5 bbls $20 Colon, Amapola
3 bbls $16 C of Atlanta, Havana
100 bbls $360 Carrie B, St John, N B
12 bbls $42 Cienfuegos, Havana
11 pgs $30 Habana, Havana
10 bbls $54 Habana, Vera Cruz

TURPENTINE

250 gls $115 Woodbury, Berbice
4,349 gls $1,834 Nebo, Sydney
2,000 gls $900 E S Powell, Rio Janeiro
411 gls $172 C of Atlanta, Havana
487 gls $195 Carrie B, St John, N B
2,000 gls $865 Sarapis, St John, P R
3,000 gls $1,260 F Whitmore, Buenos Ayres
500 gls $206 Nebo, Sydney
2,500 gls $1,161 Formosa, Buenos Ayres
100 gls $45 Javen Pura, Gibraltar
264 gls $119 Cienfuegos, Havana
2,400 gls $1,125 Finance, Rio Janeiro
100 gls $50 Finance, Maranham
500 gls $255 Finance, Santos
517 gls $240 E Walsh, Halifax
2,000 gls $860 Maud Scammel, Montevideo
986 gls $416 Habana, Havana

VARNISH

10 gls $12 Orinoco, Hamilton
140 gls $100 Marsala, Hamburg
50 gls $62 Malabar, Hiogo
619 gls $720 Ravensheugh, London
30 gls $77 Colon, Acajutta
23 gls $24 C of Atlanta, Sagua
910 gls $1,216 DeRuyter, Antwerp
450 gls $386 F Whitmore, Buenos Ayres
43 gls $56 Nebo, Sydney
20 gls $39 Wm Jones, St Domingo City
618 gls $443 Wieland, Hamburg
20 gls $16 Cienfuegos, Havana
19 gls $12 Edith Hough, Trinidad
10 gls $18 Portia, St John's, N F
195 gls $129 Habana, Havana
20 gls $23 Habana, Vera Cruz

VASELINE

10 cs $306 Circassia, Glasgow

WAX

15,911lb $973 Greece, London
12,847lb $590 Circassia, Glasgow

WHALEBONE

1,062lb $3,611 P Caland, Amsterdam

WHITING

6 bbls $13 C of Atlanta, Havana
4 bbls $8 Cienfuegos, Havana
8 bbls $16 Habana, Havana

ZINC OXIDE

20 bbls $188 Egypt, Liverpool

San Francisco Exports.

For week ending July 17.

CANDLES

14 bxs, W H Dimond, Honolulu
75 bxs, San Blas, Mexico
10 bxs, Lizzie Wallace, Hilo

CEMENT

400 bbls, San Blas, Mexico

FERTILIZER

1,728 bgs, W H Dimond, Honolulu

OIL COCOA

627 gls, Mexico, Victoria

OIL LUB

236 gls, Mexico, Victoria

PAINT

5 pgs, Mexico, Victoria
55 pgs, W H Dimond, Honolulu
8 pgs, San Blas, Central America
10 pgs, San Blas, Mexico

QUICKSILVER

70 flks, San Blas, Mexico
100 flks, San Blas, In transit

SOAP

67 bxs, W H Dimond, Honolulu
22 bxs, Lizzie Wallace, Hilo

SPICES

13 pgs, Mexico, Victoria
34 pgs, San Blas, Mexico

STARCH

1,475lb, San Blas, Mexico

TALLOW

9,595lb, San Blas, Mexico

TURPENTINE

10 cs, W H Dimond, Honolulu

WHITE LEAD

1,500lb, W H Dimond, Honolulu

Baltimore Exports.

For week ending July 26.

GREASE

39,000lb, Khio, Rotterdam
30,000lb, Buenos Ayrean, Liverpool

LEAD

8 kgs, F M Noyes, Old Providence

LICORICE MASS

20,206lb, Rosemorran, London

OIL FISH

15,000 gls, Peruvian, Liverpool

OIL LARD

461 gls, F M Howes, Berbice
4,500 gls, Rosemorran, London

OIL LUBRICATING

15,487 gls, Mentmore, Liverpool

PITCH

30 bbls, F M Howes, Berbice

ROSIN

249 bbls, Gothenburg City, Antwerp
1,468 bbls, Peruvian, Liverpool
500 bbls, Buenos Ayrean, Liverpool
506 bbls, Minnesota, London
350 bbls, Lero, Rotterdam
300 bbls, Adda J Bonner, Rio Janeiro
2,100 bbls, Hermann, Bremen
500 bbls, Khio, Rotterdam

SASSAFRAS ROOT

23,900lb, Gothia, Hamburg

SOAP

5 bxs, Rosemorran, London

STARCH

1,800 bxs, Lero, Rotterdam
10,200 bxs, Khio, Rotterdam

STEARINE

95,406lb, Khio, Rotterdam

TALLOW

575,850lb, Lero, Rotterdam
40,000lb, Gothia, Hamburg
3,815lb, F M Howes, Berbice
263,300lb, Rosemorran, London

TAR

20 bbls, F M Howes, Berbice

Boston Exports.

For week ending July 27.

ACID

10 cbys, Alta, St John, N B

AMMONIA

5 cars, Dominion, Yarmouth

ASBESTOS

2,355 bgs, Dominion, Yarmouth

FISH GLUE

126 crates, Catalonia, Liverpool

GLUCOSE

430 bbls, Milanese, London
5 bbls, Carroll, Halifax

GREASE

930 tcs, Palestine, L'pool
300 bbls, Milanese, London

PAINT COPPER

35 cs, Halifax, Halifax

PHOSPHATE

60 hhds, 17 bbls, George, Humacoa

LOGWOOD

8 bbls, Carroll, Halifax

OIL

6 bbls, Cumberland, St Johns, N B
30 bbls, Palestine, L'pool
8 bbls, Sepet, St Pierre
18 bbls, Carroll, Halifax
50 bbls, Novelty, Badduk, C B

OIL CAKE

800 sks, Palestine, L'pool
1,245 sks, Norseman, L'pool
191 sks, Bostonian, Liverpool

OIL TALLOW

511 tcs, Milanese, London
37 tcs, Norseman, Liverpool

SOAP

6 bxs, Halifax, Halifax

STARCH

100 bxs, Norseman, Liverpool

TALLOW

123 hhds, Palestine, Liverpool
125 hhds, Catalonia, Liverpool

WAX

75 bbls, Milanese, London
2 bbls, Halifax, Halifax

Wilmington Exports.

For week ending July 26.

ROSIN

2,187 bbls, Polly Stott, London

TAR

15 bbls, Orlando, Pt au Prince

SPIRITS TURPENTINE

1,600 cks, Polly Stott, London
3 cks, Orlando, Pt au Prince
2,000 cks, Atossa, London

Philadelphia Exports.

For week ending July 26.

OIL CAKE

3,705 sks, British King, L'pool

TALLOW

90 hhds, British King, L'pool

New Orleans Exports.

For week ending July 26.

COTTONSEED MEAL

36,019 sks, Azalea, Hamburg

LEAD

2,184 pigs, Statesman, L'pool

OIL

2,000 bbls, Azalea, Hamburg

OIL CAKE

5,380 sks, Azalea, Hamburg

Charleston Exports.

For week ending July 27.

ROSIN

1,625 bbls, Henrich Bjoru, R'dam

SPIRITS TURPENTINE

600 cks, Henrick Bjoru, R'dam

GOODS ON THE WAY TO THE UNITED STATES BY SAIL.

Calcutta

TO NEW YORK.

Palgrave, 2,000 bgs cutch, 989 bgs linseed, 1,265 bgs castor seed
Doris, 1,315 bgs cutch
Struan, 1,307 bgs salipeter, 1,600 bgs cutch
Buckingham, 1,700 bgs saltpeter, 2,499 bgs cutch, 40 cs indigo, 100 cs button lac
Centennial, 3,530 bgs cutch, 300 cs button lac, 1,500 pkts turmeric
Lord Dufferin, 1,000 bgs cutch, 50 cs button lac, 4,600 bgs saltpeter
Daniel I Tenney, 486 bgs saltpeter 3,500 bgs cutch, 100 cs button lac
Austriana, 2,498 bgs saltpeter, 2,706 bgs cutch
George Skolfield, 1,488 bgs cutch, 9,666 bgs linseed, 300 cs shellac
Anglo American, 2,933 bgs saltpeter, 4,998 bgs cutch, 240 cs button lac, 200 cs castor oil, 1,600 bgs ginger
Thiorva, 1,147 bgs saltpeter, 2,000 bgs cutch, 12,792 bgs linseed, 400 cs shellac
Sam Skolfield, 4,014 bgs cutch, 50 cs button lac, 400 bgs ginger

Cirgenti

TO PHILADELPHIA

Navigatore, 800 tons thirds brimstone
Orsola, 700 tons thirds brimstone

TO SAVANNAH

Washington, 800 tons seconds brimstone

TO WILMINGTON

Lydia Peschau, 450 tons seconds brimstone

TO CHARLESTON

Maria Galatola, 530 tons brimstone
Protettore, 570 tons brimstone

Hong Kong

TO NEW YORK

Antoinette, 70 cs essential oils, 135 cs gall nuts
James G Bain, 250 pcls cassia, 140 cs essential oil, 117 cs gall nuts

Licata

TO CHARLESTON

Sirena, 475 tons brimstone

Singapore

TO NEW YORK

Edward Kidder, 3,373 pcls gambier, 166 pcls cube gambier, 670 pcls tapioca flour, 852 pcls pearl tapioca, 1,080 pcls flake tapioca, 430 pcls white pepper, 841 pcls black pepper, 337 pcls sago flour, 2,008 pcls gum copal, 16 pcls nutmegs
Liguri, 8,003 pcls gambier, 2,030 pcls sago flour, 1,681 pcls gum copal, 108 cs cutch

TO BOSTON

Obed Baxter, 3,363 pcls gambier, 193 pcls cube gambier, 588 pcls pearl tapioca, 142 pcls pearl sago, 253 pcls flake tapioca, 420 pcls sago flour, 111 pcls tapioca flour, 49 pcls white pepper, 695 pcls gum copal, 2,000 bxs cutch
Thomas A. Goddard, 4,200 pcls gambier, 169 pcls Cube gambier, 336 pcls pearl tapioca, 169 pcls flake tapioca, 252 pcls black pepper, 51 pcls white pepper

West Coast South America

TO CHARLESTON

Lake Simcoe,——bgs nitrate soda

TO NEW YORK

Wachusett, bgs nitrate soda
Republic,——bgs nitrate soda
E L Mayberry,——bgs nitrate soda
Minnie Brown,——bgs nitrate soda
Lurline,——bgs nitrate soda
Woon Sung.——bgs nitrate soda
Grandee,——bgs nitrate sada

TO HAMPTON ROADS

Heronimus,——bgs nitrate soda
McGilvery,——bgs nitrate soda.

RECORD OF VESSELS.

Port & Name.	Sailed.	Last Reported
Calcutta.		
Palgrave.....	March 7	
Doris.....	March 15	
Struan.....	April 6	
Buckingham .	April 6..	
Centennial....	April 20.	
D I Tenney...	May 8...	
Thiorva.....	May 10..	
Austriana	May 23..	
G W Skolfield	May 20..	
A American..	May 23..	
Lord Dufferin	May 26..	
Sam Skolfield	May 30..	
Girgenti.		
L Peschau		Malta, May 7
M Galatola....		
Protettore....	May 25..	
Washington ..	June —..	
Orsola.....	June —..	
Navigatore...	June —.	
Hong Kong.		
Antoinette....	April 23.	
J G Bain..	June 22..	
Licata.		
Sirena.....		
Singapore.		
O Baxter.....	April 19.	New Anjer, May 3
E Kidder.....	Apr 29...	New Anjer, May 18
Liguri.....	May 2	
T. S. Goddard	June 3..	
W. C. South America.		
Heronimus...		
Wachusett....		May sailing
Republic.....		May sailing
E L Mayberry	May 3...	
M Brown.....		May sailing
Lurline.....	Apr 28..	
Woon Sung...		May sailing
McGilvery ...		
Lake Simcoe..		May sailing
Grandee...		May sailing

Low Prices for Drugs in London.

Four or five sales by auction, "without reserve," have recently been made in Mincing Lane which afford an illustration of the manner in which, during the last decade, the value of many important raw products has declined. A fortnight ago we announced the sale of 1,605 bales Cuprea bark at the cinchona auctions for a sum which was insufficient even to cover the usual warehouse rent from the time of the importation of the goods until their sale. On Tuesday a second and still larger parcel of the same kind of bark was offered under similar conditions. Both lots are understood to have been held by the same owners (a banking corporation), to whom they were pawned several years ago, and who in the near future will probably be able to derive, among all the disappointments of the transaction, some slight consolation from the fact that further delay would only have made matters worse. The quantity sold on July 2 amounted to 182,000 lbs which realised an aggregate of about £1,900, while at Tuesday's auctions 237,000 lbs were disposed of, the total realizing about £2,250.

With some slight exception all this bark was imported during the year 1882, when the imports of Cuprea reached by far the highest figure ever known. In that year a syndicate of speculators, supposed to be in the possession of exclusive information respecting the future supply of this bark from Central America, were trying to "corner" the quinine manufacturers, and, the market being generally unsettled, nearly all the arrivals of Cuprea went in stock. In January, 1882, the best brands of the bark still realized from 2s 9d to 3s 3d per lb, but towards the end of the year the price had fallen to about 2s per lb. If in 1882 the owners of the parcels which have been sold this month, after seven years' warehousing, had decided upon the opposite policy to that which they actually did adopt and met the buyers at the auction half way, they would almost certainly have been able to dispose of the entire 420,000 lbs. at an average price of 2s@2s 3d per lb., and have thus realized at least 45,000l for what they let go for 4,150l in July, 1889. It is to be hoped, for the sake of the owners, that they have succeeded in making some arrangement with the dock company regarding the payment of rent charges on the bark, for if they should have to pay the full regulation rent, that item alone will more than swallow up the whole of the proceeds of the sale. From the prices now realized we may assume that the average equivalent of quinine sulphate in the Cuprea in question is at least 2 per cent, a rather low estimate, though this variety of bark, on account of the cupreine which it contains, is more difficult to treat than cinchona. Taking it at that percentage, however, the aggregate equals about 135,000 oz. quinine, which are now worth, at the most, as many shillings, nearly the whole of the supply having been bought by Continental manufacturers. In 1882 German bulk quinine was quoted at 8s to 9s per oz., and we thus see that, whereas quinine-makers can now buy certain classes of bark eleven times as cheaply as in 1882, the product which they obtain from the material has been reduced to one-eighth of its price then, a circumstance which assists in explaining why even at the present low quotations they do not cease to manufacture. It would be interesting to know exactly how much of this old Cuprea bark there is still in stock in London. The total quantity of South American bark in the warehouses at the beginning of this month is returned at 36,147 packages, of which 483 are cases. Of the residue, probably not less than 26,000 bales are Cuprea bark, imported for the greater part between 1880 and 1883, and held, we should think, in a very few hands. It would not be a matter of surprise, therefore, if these few holders should have decided to liquidate the whole of this supply in batches such as those offered at the last two sales. If they should be able to do so without at the same time still further disarranging the market, or bringing about an accumulation of other American and of Eastern barks, our stock at the end of the year may be worked down to a moderate figure, and there is then a chance that the position of quinine may become rather better, a heavy stock of bark being always a powerful, though illogical argument in support of the "bear" vew of the quinine situation. We say illogical, because, whether in the shape of alkaloid in the bark or of sulphate in the tin, the over-supply of quinine itself remains in existence, the only difference being that the bark supply is publicly recorded every month to all the world, whereas the available quantity of quinine is kept more or less secret, and is therefore liable to be disregarded as a factor.

Not unlike the sale of the old Cuprea bark is the disposal also by auction, and "without reserve," of large quantities of cassia lignea, still more Rip-van-Winkleized than the American drug, although in this instance the sacrifice to the holders is not by any means so heavy. On July 3 a parcel of 1,000 boxes and on July 17 one of 2,190 boxes, both imported from Hong Kong in 1878 and 1880, were knocked down to the highest bidder at from 20s 6d to 21s 6d per cwt., the average price being about 20s 9d per cwt and the aggregate amount realized for the whole lot near £4,000. At the time of its importation this cassia lignea would probably have realized 47s per cwt, or over £9,000, and if the full usual charge for warehousing should be made for these two parcels, that bill—the tariff for cassia lignea being 10d per ton per week—will figure up to something like £4,500. But here also the holders may have made terms with the warehouse companies, and decided to make a clean sweep of their stock of such unprofitable drugs. It would be well if owners of other similarly situated goods would adopt a like course. To accumulate stock and hold it a outrance may have been successful policy in the ante-Suez-Canal days, and even much later when London was still the one central market for drugs and most kinds of colonial produce, but it is absolute folly now that nearly every manufacturing country of any importance has established direct communication with the Orient and the West. As foreign nations grow commercially so they will have their share of the world's trade, and all we have to do is to adapt ourselves to the altered circumstances in the best possible spirit.—*Chemist and Druggist.*

WHOLESALE PRICES CURRENT.

☞Our Quotations are those of Importers and Manufacturers, for original packages and large lots. For broken lots higher prices are asked.

Oils, Etc.

Vegetable Oils.

Linseed Domestic Raw, in bbls, ℔ gal.	—	@60
Boiled, in bbls	—	@63
Calcutta, Raw, in bbls	—	@60
Western on spot	—	@58
Rapeseed, in bbls	62	@64
Mustard	60	@63
Cottonseed, Crude Prime	40	@—
Crude, off quality	34	@37
Yellow Summer Prime,	49	@52
Yellow Summer, off qual.	43	@47
Yellow Summer, cooking	—	@—
White Summer	47	@48
Yellow Winter	54	@58
White Winter	55	@58
Soap stock	1½	@1¾
Olive, Sicily	68	@70
Spanish	68	@70
Soap Stock	5	@5¼
Palm, prime ℔ lb	5¼	@5½
Off quality	4	@5
Cocoanut, Domestic	—	@5¼
Ceylon	5¼	@5¾
Cochin	6¾	@—
Cuban	5¼	@—
Castor, No. 2	—	@—
No. 3	11	@11½
Poppy	55	@57
Rosin, first run ℔ gal.	—	@9
Second run	—	@11
Third run	—	@14
Fourth run	—	@17

Animal and Fish Oils.

Whale, natural winter ℔ gal.	45	@46
Bleached winter	47	@48
extra bleached winter	49	@50
Bleached spring	46	@47
Sperm, natural winter	75	@76
Bleached winter	80	@82
Natural spring	69	@71
Bleached spring	74	@76
Sea elephant, bleached winter	55	@56
Unbleached winter	50	@51
Lard, prime city	52	@53
prime, western	52	@53
Extra No. 1	46	@50
No. 1	42	@44
No. 2	37	@40
Menhaden, prime crude	25	@—
Prime southern	21	@—
Brown strained	26	@—
Light strained	28	@—
Extra bleached white	37	@—
Bleached winter	32	@—
Rank	26	@—
Straits	27	@—
Herring	—	@—
Oleo	—	@—
Cod, Domestic, prime	30	@32
Black Fish, Crude	—	@—
Natural	—	@—
Bleached Winter	—	@—
Degras, English	2¾	@2⅞
French	—	@—
Tallow, Prime	48	@50
Neatsfoot, Prime	57	@60
No. 1	45	@55
Elaine Red	36	@39
Saponified Red ℔ lb	4¾	@5

Mineral Oils.

Paraffine, High viscosity ℔	18	@21
23½@24 gravity	11¼	@12
25 gravity	10¼	@11
28 gravity	8¼	@9
Red Paraffine, 21 @22 gravity	14	@14½
22½@23 gravity	12	@13
Neutral filtered, 32 grav., bloomless	18	@20
white, 35 gravity	33	@35
32@34 gravity, bloomless	10	@18
32 gravity, wool grade	13	@15
West Virginia, natural 29 gravity	23	@25
Franklin, natural, 32 gravity	—	@—
Smith's Ferry, 33@34 gravity	7	@8
Black reduced, 29 gravity, 25@30 c. t.	8	@9
29 gravity, 15 cold test	8½	@9¼
29 gravity, zero	—	@—
Summer	6	@7
Cylinder, light filtered	15	@20
dark filtered	14	@21
extra cold test	—	@—
dark steam refined	10	@18

Oil Cake.

Calcutta cake, city ℔ ton	—@—	
City domestic	—@—	
Western, in bags	—@26	00
Cottonseed cake at Memphis	—@—	
do do New Orleans	22	00@—

Oil Meal.

State domestic meal ℔ ton	28	00@29 00
Cottonseed meal at Memphis	—@—	
do do New Orleans	22	50@—

Wax Candles, Lard Tallow, Etc.

Paraffine wax, crude, 124@126 m p ℔ lb	4½@	4¾
128@130 m. p	4¾@	5
refined 135 m. p	8¼@	8¾
Candles, Paraffine, 4s and 6s	8	@11
12s	8	@12
Adamantine, 6s, 16 oz	9	@10
14 oz	8	@9
12 oz	7	@8
12s, 16 oz	10	@11
14 oz	9	@10
12 oz	8	@9
Patent sperm, 4s and 6s	35	@36
Sperm, 4s and 6s	25	@26
Stearic acid	10	@11
Spermaceti	23	@25
Lard	6 30	@7 80
Stearine	5½	@7½
Tallow	—@4	11-16

Naval Stores.

Sp. turpentine 39	@39½	I	1 80	@—	
St'd rosin	1 07½	K	1 90	@—	
G'd st'd	1 10	@—	M	2 00	@2 05
E	1 20	@—	N	2 15	@2 20
F	1 30	@—	W G	2 35	@—
G	1 40	@—	W W	2 50	@—
H	1 50	@—			

Paints, Varnishes, Etc

White Lead, Zinc, Etc.

American Dry White Lead ℔ lb	6¾@7	
Pure White Lead, in oil	7	@7¼
English White Lead, in oil	8¼@8¾	
Zinc White, Paris, G S, 50 bbls	7½ less	4 ℔ ct
G S, 25 bbls	7½	2 ℔ ct
G S, 10 bbls	7½	1 ℔ ct
R S, 50 bbls	6½	4 ℔ ct
R S, 25 bbls	6½	2 ℔ ct
R S, 10 bbls	6½	1 ℔ ct
Antwerp R S, 50 bbls	6½	4 ℔ ct
R S, 25 bbls	6½	2 ℔ ct
R S, 10 bbls	6½	1 ℔ ct
G S, 50 bbls	7	4 ℔ ct
G S, 25 bbls	7	2 ℔ ct
G S, 10 bbls	7	1 ℔ ct
G S in poppy oil	10¼@10¾	
R S in poppy oil	8¾@9¼	
French in Varnish	16	@20
American Extra Dry	4½@	4¾
Off color	4 @	4¼
In oil	6¼@	6¾
In varnish	14 @	18¾
L. Z. O. German zinc	5¾@	5
China white	10¼@	12
Flake white	10½@	12
Crumnitz white	15	@20

Dry Colors.

REDS.

Carmine No. 40 ℔ lb	3 10@	4 20
Crocus martus, imported	1¼@	2¼
Standard American	1¼@	2½
Colcothar	3½@	6
Indian red, American	3½@	6¼
Standard American	2 @	3
English	5½@	7
Tuscan red, English	9½@	11
Turkey red, English	9½@	14
Litharge, English flake	9 @	9½
American powdered	6½@	6¾
Red lead, English	8½@	9
American	6¾@	7
Orange mineral, English	8½@	9½
French	9½@	9¾
German	8¾@	9½
American	8 @	8½
Rose pink, English	9 @	9½
American	8 @	—
Vermilion, imported English	82 @	85
Am. quicksilver, bulk	60 @	—
Am. quicksilver, bags	61 @	—
Chinese	88 @	90
Trieste	85 @	87
American	11½@	12
Artificial	8 @	35
Venetian red,	1 40 @1	50
English prime	1 40 @1	50
second quality	1 05 @1	25
American	1 00 @1	35

YELLOWS.

Chrome yellow	10 @	25
Ocher, Rochelle	1 35 @1	50
Washed Dutch	5 @	—
Washed French	1½@	2½
Washed Nat Oxford, Lump	6½@	6¾
Washed Nat Oxford, Powd'r	7 @	7½
Golden	3¾@	4
Domestic	¾@	1¼
Domestic, for O C & W P	¾@	1

GREENS.

Chrome, Chemically pure	22	@26
Extra	12	@13
Super	9	@11¼
Common	—	@8
Paris, Pure	20	@—
In pulp	11	@12
French Verdigris	40	@42

BLUES.

Chinese Blue	45	@50
Prussian Blue	20	@35
Soluble Blue	40	@55
Ultramarine Blue	7	@25
Celestial Blue	5½@	8
Blue verditer	25	@30
refiners'	60	@70

BROWNS.

Sienna, Italian, burnt & powdered	5 @	6¼
burnt lumps	1¾@	3½
raw powdered	5 @	6½
raw lumps	1¾@	3½
American, burnt & powdered	1¼@	1¾
raw	1¼@	1¾
Umber, Turkey, burnt and powdered	3½@	4
burnt lumps	2¾@	3
raw and powdered	3½@	4
raw lumps	2¼@	2¾
American, burnt	1¼@	1½
raw	1¼@	1½
Vandyke brown, English	6 @	8
American	3 @	3¾
Spanish brown	½@	1

Miscellaneous.

Barytes, prime white ℔ ton	19 00	@20 00
foreign floated	19 00	@21 00
domestic floated	26 00	@32 00
off color	12 50	@14 00
crude No. 1	8 50	@—
No. 2	7 75	@—
No. 3	7 50	@—
Chalk	2 00	@—
kiln dried ℔ 100 lbs.	45	@—
air dried	33	@35
China clay ℔ ton	13 50	@18 00
Cobalt oxide	2 60	@2 90
Feldspar ℔ ton	15 00	@—
Silex	14 00	@25 00
Whiting, commercial ℔ 100 lbs.	42½@	50
gilders'	57½@	70
Paris white, English cliffstone	1 05	@1 15
American	65	@80
French talc	1¼@	1½
terra alba	72½@	85
American terra alba No. 1	70	@75
No. 2	38	@40
Blanc fix ℔ lb.	2½@	3
Dentists' plaster ℔ bbl.	1 35	@1 50
Calcined plaster ℔ bbl.	1 25	@1 50
Marble dust ℔ bbl.	90	@1 00
Pumice stone, original cks. ℔ lb.	1½@	2
selected lumps in bbls.	3½@	—
powdered pure in bbls.	2½@	2¾
Rotten stone original cks	4½@	5½
selected lumps	6 @	10
powdered, in bbls.	3½@	3¾
Rubbing stone	@	7
Bronze powder	— @	—
Brocades	45 @1	00
Smalt, German blue	15 @	—
super black	— @	—
Putty bulk	1¾@	2¾
bladders	2 @	2½
tins	— @	2¾

Glues.

Extra white ℔ lb.	17	@20
Medium white	13	@15
Cabinet	12	@14
Low grade	8	@10
Foot stock, white	9¼@	13½
brown	4 @	8
Irish	12½@	14½
French	9½@	22½
English	10½@	15

Metallic Paints.

Brown ℔ ton	$18 00@	25 00
Red	27 50@	32 50
Yellow	27 50@	32 50

Colors in Oil.

Black coach, Japan ℔ lb.	18¼@	20
in oil	12 @	13
Drop black	8½@	14½
Ivory black	8½@	14½
Lamp black	12 @	20
Chinese blue	35 @	40
Prussian blue	20 @	45
Ultramarine blue	12 @	18
Burnt sienna	7 @	14
Raw sienna	7 @	14
Burnt umber	7 @	11
Raw umber	7 @	11
Vandyke brown	7 @	12½
Chrome green	8 @	14
Paris green	16 @	18½
English drop black	12½@	14
American drop black	7¾@	10
Frankfort drop black	25 @	30
Lampblack, plume	27½@	33
medium	19½@	26
2d quality	13 @	19
low grade	6¼@	10
Naphtha, black	60 @	—
Fine calcined velvet black	16 @	25
Medium calcined velvet black	12 @	15

Varnish Gums.

Copal, Sierra Leone, cleaned	37½@	40
Zanzibar, bold white	85 @	95
medium white	75 @	80
bean and pea	45 @	50
Manila, pale	17 @	20
bright amber	13 @	15
standard	9 @	10¾
Damar, Batavia	19 @	21
Kauri, standard	13¾@	16
No. 2	12 @	14
hard scraped	22 @	24
light hard scraped	28 @	30
picture quality	65 @	70
pale and fine selected	42 @	65
Sandrac	22@	30
Asphaltum, Cuban, prime	4½@	5¼
sandy	4 @	5
Egyptian	8 @	9

Glass.

PLATE AND WINDOW.

FRENCH SINGLE.

Prices per Fifty Feet.

Sizes.	1st.	2d.	3d.	4th.
6x 8 to 10x15	$10 50	$ 9 00	$ 8 50	$ 8 00
11x14 to 16x24	11 50	10 75	10 25	9 75
18x22 to 20x30	15 50	14 00	13 00	12 50
15x36 to 24x30	16 50	15 00	13 50	....
24x36 to 24x36	17 75	16 20	14 75	....
26x36 to 26x44	19 00	17 50	15 25	....
26x46 to 30x50	21 00	19 50	17 00	....
30x52 to 30x54	22 00	20 25	18 00	....
30x56 to 34x56	23 00	21 25	19 00	....
34x58 to 34x60	24 00	22 75	21 00	....
24x36 to 26x28	26 00	25 00	23 00	....
36x60 to 40x60	26 50	24 50	23 00	....

FRENCH DOUBLE.

Prices per Fifty Feet.

Sizes.	1st.	2d.	3d.	4th.
6x to 10x15	$13 00	12 50	$12 00	$11 50
11x14 to 16x24	16 00	15 00	14 50	....
18x22 to 20x30	20 50	19 50	18 50	....
15x36 to 24x30	22 00	20 75	19 50	....
26x28 to 24x36	25 00	23 00	21 50	....
26x46 to 30x50	28 00	26 50	24 50	....
30x52 to 30x54	30 00	28 00	26 00	....
30x56 to 30x56	31 00	30 00	28 00	....
34x58 to 34x60	32 50	31 00	29 00	....
36x60 to 40x60	36 00	33 50	32 00	....

Discounts:—75 10 & 5.

AMERICAN SINGLE.

Sizes.	1st.	2d.	3d.	4th.
6x 8 to 10x15	$10 50	$ 9 00	$ 8 50	$ 8 00
11x14 to 16x24	11 50	10 75	10 25	9 75
18x22 to 20x30	15 50	14 00	13 00	12 50
15x36 to 24x30	16 50	15 00	13 50	....
26x28 to 24x36	17 75	16 25	14 75	....
26x36 to 26x44	19 00	17 50	15 25	....
26x46 to 30x50	21 00	19 50	17 00	....
30x52 to 30x54	22 00	20 25	18 00	....
30x56 to 34x56	23 00	21 25	19 00	....
34x58 to 34x60	24 00	22 75	21 00	....
36x60 to 40x60	26 50	24 50	23 00	....

AMERICAN DOUBLE.

Sizes.	1st.	2d.	3d.	4th.
6x 8 to 10x55	$13 00	$12 50	$11 00	$10 00
11x14 to 16x24	16 00	15 00	13 50	12 00
18x22 to 20x30	20 50	19 50	18 00	....
15x36 to 24x30	22 00	20 75	18 75	....
26x28 to 24x36	25 00	23 00	21 00	....
26x36 to 26x44	26 00	25 00	22 50	....
26x46 to 30x50	28 00	26 50	23 75	....
30x52 to 30x54	30 00	28 00	25 25	....
30x56 to 34x56	31 00	30 00	27 00	....
34x58 to 34x60	32 50	31 00	28 00	....
36x60 to 40x60	36 00	33 50	30 00	....

Discounts:—80@80 & 10.

Drugs.

Opium.

Opium, in bond ℔ lb.	2 10	@2 50
duty paid (cases)	3 10	@3 50
as wanted	3 20	@3 50
powdered	4 20	@4 30
Morphine	2 40	@2 70
foreign	2 25	@2 40

Quinine.

Quinine American ℔ oz.	32	@39
English	—	@—
French	—	@—
German	23½@	35
Cinchonidia, American	4	@5
foreign	2	@5
Quinidia, German	24	@29

Miscellaneous.

Acid benzoic, German ℔ lb.	52	@55
English ℔ oz.	11	@12
boracic purified ℔ lb.	20	@—
refined	14½@	14¾
flaky	14	@—
carbolic, pure crystals 100	32	@35
drums	27	@29
citric, domestic	44	@—
foreign	43½@	44
salicylic, bulk & boxes	1 20	@1 25
Alcohol, 94 p ct, free	1 98	@2 08
per gal.	1 98	@2 08
refi'd wood, 97 p ct	1 05	@1 15
95 p ct	1 00	@1 10
92 p ct	95	@1 05
Inodorous	1 50	@1 60
Cologne spirits, 188 p t	2 18	@2 28
Ambergris gray	22 00	@30 00
black	9 00	@12 00
Ammonia carb, foreign	7¾@	8
domestic	8 @	8¼
Bay rum imp, bulk	1 95	@2 00
Barbadoes tar	38 @	40
Borax, refined city, bbls ℔ lb.	9½@	9¾
Cal., bbls	9½@	9¾
concentrated	7¾@	8⅝
powdered	8¾@	9
Bromine	37 @	38
Burgundy pitch	2¾@	3
Cantharides, Russian	90 @1	00
Chinese	30 @	35
Calomel, domestic	70 @	72
English	1 05 @1	10
Castile soap, white	10¾@	12
green, pure	6½@	9
mottled ordinary	4½@	4¾
pure	5¾@	6
Chian turpentine ℔ oz.	45 @	—
Chloroform	28 @	30
Colocynth apples, Trieste ℔ lb.	34 @	42
pressed	— @	—
Spanish	24 @	28
Cacao butter	33 @	34
Chloral hydrate, crystals	1 55 @	—
plates	1 25 @	—
Corrosive sublimate	67 @	69
Cuttlefish bone, Trieste	21 @	22
Dragon's blood mass	20 @	28
reed	40 @	45
Ergot, Spanish	40 @	50
German	28 @	32
Gelatine English	50 @	60
French	30 @	—
American	85 @	—
Glucose	2¾@	3¼
Grape sugar	2¾@	3
Glycerine, German, refined, dms	20 @	—
Amer'n, ref. bbls & cs	21 @	23
No. 1	19 @	21
Glycerine, crude	11 @	12
Guarana, whole	1 15 @	1 17½
Powdered	1 20 @	1 25
Iceland moss	4½@	—
Indian hemp (Canabis In)	7 @	10
Insect powder	30 @	35
Irish moss	6½@	12
Isinglass, Russian	3 50 @	3 75
American ordinary	70 @	75
prime	90 @	1 50
Iodine, re-sublimed	3 50 @	—
Licorice paste, domestic	6 @	15
foreign	24 @	29
Lupulin, American ℔ lb	— @	60
German	30 @	—
Lycopodium, prime	33 @	36
Manna, large flake	75 @	—
Small flake	31 @	33
Sorts	25 @	28
Menthol	1 45 @1	75
Musk, true grain ℔ oz	40 00 @42	00
Tonquin pods	25 00 @26	00
Canton grains	20 @1	00
Nitrate barium ℔ lb	7 @	7½
Strontia ℔ lb	8½@	1¼
Nux vomica, pockets ℔ lb	4 @	5
Oil, Almond, sweet	20 @	38
Myrbane American	16 @	18
English	16 @	18
German	— @	—
Sesame ℔ bbl	70 @	75
Castor, city, bbls & cases	14½@	17¾
Cod liver Norwegian ℔ bbl	20 50	@26 00
Newf'land ℔ gal.	60 @	65
Phosphorus ℔ lb	70 @	75
Precip, red	85 @	87
White	90 @	93
Precipitated chalk, Eng. bk	4½@	5
bbls	7 @	—
Potassium, bromide, bulk	33 @	34
glass	42 @	43
Iodide, bulk	2 65 @	2 70
glass	2 73 @	2 78
Quicksilver	70 @	72
Sago, pearl	3½@	3
Flour	3½@	4
Sugar of milk cob	16 @	17
Powdered	16 @	17
Sulphur, roll	— @	2¾
Flour	— @	2
Salicine	1 75 @1	90
Tamarinds ℔ keg	2 50 @2	75
Venice turpentine ℔ lb	18 @	20
Wax, brown southern	26 @	27
State	25 @	26
White, pure	40 @	45
Japan	10¼@	—
Carnauba	14 @	16
Ceresin	10½@	11

Balsams.

Copaiba, Angostura ℔ lb	65 @	70
Para	55 @	60
Central American	45 @	50
Fir, Canada ℔ gal	2 10@2	25
Oregon	90@1	10
Peru ℔ lb	90@1	00
Tolu	28@	30

Barks.

Angostura ℔ lb	12 @	14
Bayberry	5 @	7
Buckthorn	5 @	7
Cascara Sagrada	8 @	12½
Cascarilla	4 @	5
Canella	7 @	8
Cinchona, red	25 @	28
yellow	12 @	28
Coto	60 @	95
Elm, common	7 @	10
selected	12 @	14
Loxa	— @	—
Oak, white	3½@	
red	3½@	
Orange peel, West Indian	5½@	
Mar. Cuba	5 @	10
Curacoa	7 @	8
Prickly ash	10 @	
Pomegranate (of root)	10 @	25
Quebracho	12 @	
Sassafras	4 @	5
Simaruba	13 @	16
Soap, whole	4½@	4½
crushed	5½@	6

Beans.

Vanilla, Mexican ℔ lb	3 50	@10 00
Bourbon	3 50	@9 00
Tonka, Angostura	1 25	@1 40
Surinams	—	@1 00
Para	80	@1 00
Calabar	20	@25
St. Ignatius	—	@—

Berries.

Cubeb ℔ lb	1 50	@1 75
Juniper	2½@	3
Fish (Cocculus Ind)	4 @	4½
Laurel	5 @	—
Prickly ash	16 @	18

Essential Oils.

Anise ℔ lb	1 60	@1 65
Almond (bitter)	2 50	@6 75
Bay, ℔ bottle of 22 ozs	6 00	@—
Bay oil, ℔ lb	3 62½@	4 35
Bergamot	1 90	@2 12½
Black pepper	65	@5 50
Cajeput	65	@70
Camphor	6½@	11
Caraway, seed	1 95	@1 40
chaff	40	@52
Cassia	1 10	@1 12½
Citronella	31	@33
Clove	1 25	@1 35
Copaiba	90	@1 00
Croton	95	@1 00
Cubebs	14 50	@15 00
Cumin, American	3 00	@4 50
Fennel	85	@—
seed	1 50	@—
Geranium, Turkish	3 00	@3 50
rose, French	8 00	@9 50
Gingergrass	2 25	@—
Juniper, once rect	—	@1 10
twice rect	1 75	@2 10
wood	37	@37
Lavender, garden	70	@85
flowers	2 25	@3 75
Lemon	1 00	@1 40
Lemongrass	70	@—
Neroli, bigarade	40 00	@55 00
Portugal	27 50	@—
Petale	50 00	@60 00
Nutmeg	2 10	@2 35
Orange, sweet	1 15	@1 45
bitter	2 50	@3 00
Origanum	18	@20
Peppermint, tin cans	1 85	@2 30
cases	2 60	@2 65
special brands	95	@1 00
Pennyroyal	90	@1 00
Rose, ordinary ℔ oz	4 25	@4 75
Rosemary, Trieste ℔ lb	55	@—
French	—	@—
Flowers	70	@—

Sandalwood		2 25	@10 50
Sassafras		42	@ 44
Spearmint		2 00	@ 2 25
Tanzy		1 75	@ 2 00
Thyme, red		21	@ 82½
white		30	@ 1 10
Wintergreen		1 75	@ 1 85
Wormseed		1 25	@ —
Wormwood		4 00	@ 4 50

Flowers.

Arnica	℔	5	@ 7½
Chamomile, German		12	@ 25
Roman		18	@ 22
Insect		35	@ 45
Lavender		2¾	@ 6
Rosemary		15	@ 20
Saffron, American		25	@ 30
Alicante		6 50	@ 8 50
Valencia		13 00	@15 00

Gums.

Aloes, Cape	℔	5	@ 5½
Barbadoes		15	@ 20
Curacoa		3½	@ 4¼
Socotrine		32	@ 40
Arabic, 1st picked		84½	@ 97
2d picked		70	@ 72½
3d picked		64½	@ 67
4th picked		54½	@ 57
Sorts		45	@ 60
Siftings		25	@ 40
Senegal, picked		50	@ 52
sorts		30	@ 36
Asafœtida		8	@ 8½
Benzoin		25	@ 40
Camphor, refined, in bbls		32	@ —
in cases		—	@ 33
Chicle		38	@ 40
Euphorbium		15	@ 17
Gamboge pipe and block		56	@ 58
Gedda, siftings		18	@ 20
sorts		—	@ —
Guaiac		28	@ 35
Kino		10	@ 11
Mastic		72	@ 75
Myrrh		30	@ 40
Olibanum, tears		15	@ 18
sorts		6½	@ 7½
Sandrac		19	@ 20
Scammony, Aleppo		25	@2 50
Virgin		7 50	@ —
Tragacanth Aleppo, 1st flake		46	@ 49
2d flake		39	@ 42
3d flake		34	@ 36
Turkey, 1st flake		70	@ 75
2d flake		52½	@ 55
3d flake		40	@ 45

Herbs and Leaves.

Aconite	℔	9	@ 11
Althea		8	@ 10
Belladonna		12	@ 15
Buchu, short		5	@ 7
long		15	@ 17
Coca		20	@ 30
Damiana		17	@ 19
Digitalis		6	@ 9
Eucalyptus		4	@ 5½
Grindelia robusta		12	@ 14
Henbane (hyosciamus)		9	@ 12
Horehound		6	@ 8
Jaborandi		15	@ 20
Laurel		3¾	@ 4
Lobelia		4	@ 7
Matico		18	@ 20
Marjoram, German		14	@ 20
French		12	@ —
Prince's pine		—	@ 8
Rose, red		1 25	@1 40
pale		45	@ 50
Rosemary		3	@ 4
Sage, Italian		2	@ 5
Senna, Alex. nat		19	@ 20
siftings		16	@ 17
garbled and sifted		24	@ 25
Tinnivelly		7	@ 20
Thyme		4½	@ 10
Uva Ursi		4	@ 5
Yerba Santa		10	@ 12

Roots.

Aconite	℔	10½	@ 11
Alkanet		7	@ 8
Althea, whole		14	@ 14½
cut		18	@ 22
Angelica, German		10	@ 12
American		9	@ 10
Arrowroot, Bermuda		31	@ 35
St. Vincent, bbls &cns		6½	@ 7
Jamaica		10	@ 11
Arnica		7½	@ 8
Belladonna		8	@ 12
Blood		5	@ 6
Burdock		7½	@ 8
Calamus, bleached		18	@ 20
unble'd, split & peeled		7	@ 10
Canada snake, select		15	@ 17
Colchicum		—	@ 10
Colombo		10	@ 12
Culvers		11	@ 12
Dandelion, German		10½	@ 11
American cut		11	@ 12
Elecampane		5	@ 5½
Galangal		2	@ 2½
Gentian		4	@ 4½
Ginseng		2 25	@2 50
Ginger, Jamaica, unbleached		16	@ 16½
American, bleached		17½	@ 18
Lonaon, bleached		17½	@ 18
Golden seal		30	@ 40
Hellebore, white, powdered		8½	@ 9
whole		5½	@ 7
Ipecac, Rio		1 85	@1 95
Jalap		13	@ 14
Kava Kava		18	@ 20
Lady slipper		12	@ 15
Lovage, American		40	@ 50
German		19	@ 20
Licorice, ordinary		5	@ 7
selected, in bdls		12½	@ 20
Mandrake		6	@ 8
Orris, Florentine		11	@ 13
finger		48	@ 75
Verona		5½	@ 6
Pareira brava		18	@ 20
Pellitory		16	@ 18
Pink		25	@ 30
Rhatany		8	@ 10
Rhubarb, whole		35	@ 80
cut		45	@1 75
Sarsaparilla, Honduras		26	@ 35
Mexican		5¾	@ 6¼
American		6	@ —
Senega, Southern		35	@ 38
Western		35	@ 38
Serpentaria, Texas		25	@ 30
Stillingia		8	@ 10
Squills, ordinary		—	@ 5
white, prime		5	@ 6
Valerian, German		10	@ 11
Belgian		6	@ 7
English		—	@ 17
Vermont		10	@ 11
Yellow dock		7	@ 9

Seeds.

Anise, Italian	℔	7	@ 10½
Spanish		—	@ 12
star		25	@ 28
Canary, Sicily		2¾	@ 3
Smyrna		2¼	@ 2½
Spanish		3½	@ 3½
Caraway, Dutch		4½	@ 5
German		—	@ —
Cardamom, Alleppy		60	@ 90
Malabar		55	@ 90
Mangalore		70	@ 1 50
Celery		10½	@ 11½
Colchicum		—	@ 25
Coriander, English		3½	@ 4
French		4½	@ 5
German		4	@ 4½
Cummin		9	@ 9½
Fennel, German		8	@ 10
Fœnugreek		2¼	@ 2¾
Guinea grains		8	@ 8¼
Hemp, Russian		2½	@ 2¾
Smyrna		—	@ —
Lobelia		25	@ 30
Millet, domestic	bush.	1 10	@ —
foreign	℔	2¼	@ —
Mustard, California yellow		2½	@ 2¾
brown		3¾	@ 4
Dutch		—	@ —
English		4½	@ 5
Trieste brown		5½	@ 7
Poppy, white		12	@ 14
Quince, German		28	@ 35
Russian		20	@ 22
Rape, domestic		3¾	@ 4
English		—	@ —
German		3¾	@ 4

Shellac.

D. C	℔	27	@ 27½
Octagon B		—	@ 21
V. S. O		21	@ 21½
Diamond I		20½	@ 21
S. S		19	@ 20
Garnet, A C		13½	@ 14½
T. N. quality		17	@ 18
Natives		16½	@ 17
Button		20	@ 27
Bleached		22	@ 23

Spices.

Cassia, Batavia	℔	—	@ 3¾
China		4¾	@ 5
Saigon, rolls		24	@28
broken		20	@21
chips		6	@ 8
buds		—	@11
Cloves, prime Zanzibar		15½	@16
Amboyna		24	@25
stems		4½	@ 5
Ginger, African		4¼	@ 4½
Calcutta		3¾	@ 3½
Cochin		4½	@16
Mace, Batavia		68	@70
Banda		—	@75
Penang		75	@80
Nutmegs, 110's		63	@65
Pepper, Singapore		13¾	@14
West Coast		13½	@13¾
Acheen, prime		12½	@13
Penang, white		19	@20
Singapore, white		23	@24
red, Zanzibar		7¾	@ 8
Bombay		6½	@ 7
Pimento, prime		6¾	@ 7

Chemicals.

Heavy Chemicals.

Alkali, 36 ℔ cent		1 20	@1 25
refined, high test		1 12½	@1 25
Bleach, over 35 ℔ cent		1 75	@1 85
Saltcake		60	@ 62½
Soda ash, carb, 48 per cent		1 25	@1 35
high test		1 12½	@1 15
Caustic, 48 ℔ cent		1 25	@1 37½
high test		1 12½	@1 15
Newcastle, 48 per cent		1 25	@1 37½
high test		1 15	@1 20
Soda bicarb, English		2 10	@2 35
American		2 00	@2 50
carbenate		1 75	@1 80
caustic, 60 ℔ cent		2 37½	@3 00
70 ℔ cent		2 20	@2 30
74 ℔ cent		2 20	@2 30
76 ℔ cent		2 20	@2 30
sal, English		95	@1 00
American		75	@ 85

Acids.

Acid, acetic,		2	@ 2¼
chemically pure		16	@ 17
pure		5½	@ 8¼
oxalic		9½	@ 10½
sulphuric, 60 deg		90	@ 95
66 deg		1	@1 75
muriatic, 18 deg		1 25	@1 50
20 deg		1 50	@1 75
22 deg		1 75	@2 00
nitric, 36 deg		4	@ 4¼
38 deg		4½	@ 4¾
40 deg		5	@ 5¼
42 deg		6	@ 6¼
tartaric, crystals		33	@ —
powdered		34	@ 37

Ammonias, Potashes and Fertilizing Chemicals.

Ashes, pot, 1st sorts	℔	4	@ 4¼
pearl		5	@ 5¼
Potash, chlorate, English		13	@ 14
powdered		13	@ 14
carb		4 70	@ 5¼
caustic		7½	@ 8
cyanide, fused		39	@ 40
obl m'ure salt 48@50%		—	@ 1 20
sulphate of, basis 90%		2 30	@ 2 32½
Kainit, 23% S. of P. ℔ ton		9 75	@11 00
Aqua ammonia (in cbys) 16% ℔		3½	@ 3¾
18%		—	@ 4¼
20%		—	@ 6
22%		6	@ 7
26%		10	@ 11
Ammonia, sal, rough		6½	@ 7½
white		7¾	@ 8
lump		8½	@ 9
sulphate		3 05	@ 3 10
Potash muriate, ℔ 100 ℔		1 80	@ 1 87½
steamer		—	@—

AMMONIATES, ETC.:

Azotine, ℔ unit		2 30	@ 2 35
Blood, dried, red, ℔ unit, west		2 40	@ 2 45
low grade, ℔ unit		2 35	@ 2 37½
Bones, rough, ℔ ton		20 00	@23 00
ground, ℔ ton		25 00	@28 00
Bone black, refuse, ℔ ton		19 50	@21 00
Kieserite		7 00	@ 7 50
Menhaden guano		23 50	@24 00
Phosphate rock, f. o. b. Charleston		5 00	@ 7 00
Phosphate rock, ground		11 00	@11 50
Acid phosphate, 14% per unit		80	@ 82½

Miscellaneous.

Acetate of lime, gray		1¾	@ 1⅞
brown		95	@ 1 00
Alum, lump		1¾	@ 1⅞
ground		1⅞	@ 2
Cake		1½	@ 1¼
Argols, crude Oporto		—	@ —
plate		23	@ 24
half refined		24	@ —
Arsenic, white		3¼	@ 3½
red		5¼	@ 6¾
Brimstone crude, best 2as		19 75	@20 50
3ds		18 87½	@19 50
Copperas,		60	@ 70
powdered		1½	@ 1¾
Cream tartar, crystals, 99 p. c		23	@ —
powdered, 99 p. c		24½	@ —
Glauber salts		75	@ 80
Epsom salts		1 15	@ 1 20
Nitrate of lead		9	@ 10
soda		1 90	@ 2
Rochelle salts		24	@ 25
Sugar lead, brown		7½	@ 8
white		12	@ 13½
Saltpeter, crude		5¼	@ 5½
refined		6	@ 8
Vitriol, blue ordinary		5½	@ 6¾
extra		—	@ 7

Dyestuffs.

Acid picric best crystals	℔	50	@ 55
Albumen prime egg		70	@ 75
imported blood		19	@ 22½
domestic blood		17	@ 19
No. 1½ blood		—	@ —
Alizarine		19	@ 21
Annatto		10	@ 25
seed		4	@ 6
Archil weed		7	@ 15
Aurine		58	@ —
Barbary root, cut		4	@ —
Bichromate of potash, Scotch		10¼	@ 11
American		10¼	@ 11
Bichromate of soda		8½	@ 11
Carmine of indigo		40	@ —
Cochineal, Teneriffe silver		30	@ 32
black		30	@ 32
gray black		33	@ 35
Mexican		—	@ —
ammoniac		12	@ 37
Cudbear, French		25	@ —
concentrated		25	@ —
English		12	@ 30
Cutch, slab		7¼	@ 7¾
bag		5¾	@ 5½
Dextrine		5½	@ 5¾
Divi divi	℔ ton	35 00	@50 00
Fullers earth, lump	℔	90	@ 95
powdered		17½	@ 2
Flavine		27	@ 28
Fustic stick	℔ ton	20 00	@26 00
Gambier	℔	6½	@ 7
Garancine		8½	@ 9
Indigo, Bengal, low grade		80	@ 85
medium		1 10	@ 1 20
high grade		1 25	@ 1 40
Caracas		—	@ —
Kurpahs		75	@ 1 05
Gautemalas		60	@ 75
Manila		70	@ 75
Madras		65	@ 85
Indigotine		3 00	@ 4 00
Lac dye		9	@ 15
Logwood stick	℔ ton	22 00	@36 00
Madder, Dutch	℔	7½	@ 8½
French		5	@ 7
Myrobalans		2	@ 2¾
Muriate of tin		8	@ 13
Nitrate of iron, commercial		1¾	@ 2
true		4½	@ 5
Nutgalls, blue Alleppo		15	@ 15½
Chinese		16	@ 16½
Oxymuriate of antimony		4	@ 6
Persian berries		15	@ 17
Prussiate of potash, Am. yellow		17½	@ 18
red		42	@ 45
Scotch yel		19	@ 20
red		42	@ 45
German yel		19	@ —
red		42	@ 45
Prussiate of soda		17½	@ 18
Phosphate of soda		7	@ 8
Safflower		—	@ —
Sago flour		3½	@ 3¾
Salts of tartar		6½	@ 7
Soluble oil		—	@ 6
Sumac, Sicily prime	℔ ton	57 50	@65 00
Virginia		46 00	@50 00
Starch, corn	℔	2¾	@ 2¾
potato		4½	@ 4⅝
wheat		5¾	@ 6
Stannate of soda, 50% soluble		—	@ 15
Stannate of soda, 40% soluble		—	@ 12
25% soluble		—	@ 9
20% soluble		—	@ 8
Tin crystals		15½	@ 16½
Turmeric root, Alleppy		3	@ 3½
Bengal		—	@ —
Corringa		3	@ 3½
powdered		5	@ 6
Ultramarine, imported		20	@ 30
American		5	@ 16
Vanadiate, ammonium		90	@ 1 00
Woad, English		9	@ 10
COAL TAR COLORS:			
Alizarine		19	@ 21
Aniline oil		18	@ 24
salt, crystals		16	@ 18
cake		20	@ 21
Bismarck brown		50	@ 75
Eosine		2 40	@ 3 00
Fast red		50	@ 65
Fast yellow—acid		75	@ 1 50
Fuchsine crystals		1 25	@ 1 75
Hoffman's violet—3B		1 75	@ 2 50
Methylene blues		4 50	@ 6 75
Methyl violets—2R		1 50	@ 2 00
2B		1 50	@ 2 00
B		1 50	@ 2 00
Nicholson (alkali) blue—3B		2 25	@ 3 00
5B		3 75	@ 4 00
Red shade		2 00	@ 2 25
Nigrosine		1 00	@ 2 00
Orange A—II		40	@ 65
Safranine		1 75	@ 2 25
Scarlet R		45	@ 55
RR		50	@ 65
RRR		70	@ 75
Soluble blue—green shade		2 00	@ 3 50

These prices are for colors of standard purity in original packages. Reduced colors can be obtained at irregular and very much reduced figures.

CHIPPED DYEWOODS, ETC.:

Barwood	℔	1¾	@ 2¼
Camwood		4¼	@ 8
Fustic, com		1¾	@ 1¼
Cuban		1½	@ 1⅝
Green ebony		3½	@ 4
Hypernic		3½	@ 4¼
Logwood, Campeachy		2	@ 2½
Laguna		2½	@ 2¾
Niewood		2	@ 2¼
Peachwood		2	@ 3
Quercitron		3½	@ 3¾
Redwood		1½	@ —
Red sanders		2	@ 3
EXTRACTS:			
Archil	℔	18	@ 20
concentrated		21	@ 25
Black oak		23½	@ 23¾
Barberry, French		26	@ 30
Chestnut		3½	@ 4½
Chestnut oak		4½	@ —
Ref'd sedimentless hemlock		3½	@ 6
Prime hemlock		4½	@ 3
Fustic, solid		2½	@ —
liquid, 51 deg		10¾	@ 9
Indigo extract		7½	@ 14
Logwood, solid		7½	@ 9½
liquid, 51 deg		5½	@ 6
42 deg		6¾	@ 26
Persian berries, French		24	@ 6¾
Sumac Extract		3¾	

COMPARATIVE PRICES.

CHEMICALS.	1888.	1887.	1886.
Bleaching powder	1 85	1 95	1 46
Caustic soda, 70%	2 22½	2 46	2 50
Caustic soda, 60%	2 30	2 52½	2 70
Sal soda	95	97½	86
Soda ash, 48% carb	1 25	1 20	1 40
Soda ash, 48% caustic	1 25	1 17½	1 28
Soda ash, 48-53% N. C	1 15	1 10	1 24
Soda alkali, 58% B. M	1 12½	1 20	1 28
Soda nitrate	2 00	1 80	2 32
Brimstone	$19 75	$18 75	21 50
Cream tartar	32	34¼	34¼
Muriate of potash	1 75	1 70	1 68
Chlorate of potash	14½	15¼	16½
Kainit	9 50	7 75	6 90
PAINTS.			
White lead in oil	5½	5¾	7
Litharge	6	5½	5½
Paris green	18¾	18	16
Orange mineral	8	7¾	8
Ven. red, English	1 40	1 40	1 40
Ven. red, American	1 00	1 00	1 00
Barytes	$16 00	$16 00	$18 50
Whiting, Commercial	50	45	36
DRUGS.			
Opium	$2 65	$4 75	$2 75
Morphine, domestic	2 10	3 10	2 10
Quinine, German	34	41	50
Quinine, domestic	43	47	58
Cinchonidia, domestic	5	8	12
Alcohol	2 20	2 03	2 07
Borax, city	8¼	6¼	7½
Beans, tonka (Ang)	1 35	1 35	1 72
Cubebs	1 50	1 00	95
Cuttle fish	21	12½	13¼
Glycerine, American	17	19½	15¼
Oil, castor, city ....cs.	14	17	17
Oil, codliver, Nor	22 50	27 00	30 00
Quicksilver	55	51	51
Oil, bergamot	2 30	2 12½	2 25
Oil, cassia	72½	70	72
Oil, cubebs	14 00	7 50	8 00
Oil, peppermint, tins	1 95	2 25	3 00
Oil, sassafras	48	33	34
Aloes, cape	5¾	5¾	7
Asafœtida	8½	9	11½
Gum arabic, 1st picked	84½	92½	82½
Gum arabic, sorts	52	57½	40
Camphor ....bbls	24	23	23
Shellac, D C	18	16½	17
Senna, Alex. Nat'l	24	29	32
Senega So	35	28	52
Golden Seal root	20	16	13
Ipecac	1 50	1 60	85
Canary seed, Smyrna	2½	2½	2¾
Caraway seed, Dutch	6	8¼	10¼
Coriander, English	4½	5	4½
Mustardseed, Cal. yel	3½	4½	6¼
Mustards'd, Trieste, br	6¼	7	5½
Rapeseed, English	3	4	3½
Rapeseed, German	3	3¼	3⅜
OILS.			
Linseed, domestic	53	49	43½
Cottonseed, prime S. Y	46	39	34
Olive, Sicily	67	68	75
Cocoanut, Ceylon	5⅛	5½	5¼
Lard, prime city	60	53	52½
Menhaden, prime cde	25	21	22
Whale, bleached win'r	43	40	42
Sperm, bleached win'r	73	73	87
Paraffine, 25 gravity	10¼	8	9½
Black, 29 gr. 15°	8½	8	8
Oil cake, western	23 00	21 50	24 75
Spirits turpentine	35	31	34½
DYESTUFFS.			
Cochineal, Teneriff S	30	30	30
Cutch	6⅝	7¾	6¼
Gambier	6½	5	4½
Indigo, Bengal h grade	1 25	1 25	1 45
Bichromate potash	10½	10¼	9¾
Prussiate potash, yel	19	18¾	20½
Sumac, Sicily prime	57 50	70 00	80 00
Starch, west'n corn bls	2¾	2¾	2¾

Walnut Oil.

BY THOMAS T. P. BRUCE WARREN.

This oil, obtained from the fully ripened nut of the Juglans regia, had many excellent properties, especially for mixing with artists' colors for fine art work.

Walnut oil is largely used for adulterating olive oil, and to compensate for its high iodine absorption it is mixed with pure lard oil olein, which also retards the thickening effect due to oxidation. The marc left on expression of the oil is said to be largely used in the manufacture of chocolate. Many people seem to prefer walnut oil to olive oil for cooking purposes.

The value of this oil for out-door work is demonstrated by the fact that a person who used it for painting the verandahs and jalousies of his house (near Como, Italy), some 20 years ago had not needed to repeat the operation. In this country, at least, walnut oil is beyond the reach of the general painter, and the pure oil is scarcely obtainable as a commercial article.

It was in examining the properties of this and other oils used as adulterants of olive oil that the author was obliged to prepare them, so as to be sure of getting them in a reliable condition as regards purity. The walnuts were harvested in the autumn of 1887, and kept in a dry airy room until the following March. The kernels had shrunk up, and contracted a disagreeable acrid taste, so familiar with old olive oil in which this has been used as an adulterant. Most oxidized oils, especially cottonseed oil, reveal a similar acrid taste, but walnut oil has, in addition, an unmistakeable increase in viscosity. The nuts were opened, and the kernels thrown into warm water, so as to loosen the epidermis; they were then rubbed in a coarse towel, so as to blanch them. The decorticated nuts were wiped dry, and rubbed to a smooth paste in a marble mortar. The paste was first digested in carbon bisulphide, then placed in a percolator and exhausted with the same solvent, which was evaporated off. The yield of oil was small; but probably, if the nuts had been left to fully ripen on the trees, without knocking them off, the yield might have been greater. It is by no means improbable that oxidation may have rendered a portion of the oil insoluble. The decorticated kernels gave a perfectly sweet, inodorous, and almost colorless oil, which rapidly thickened to an almost colorless, transparent, and perfectly elastic skin or film, not darkening or cracking easily by age. These are properties which, for fine art painting, might be of great value in preserving the tinctorial purity and freshness of pigments.

Sulphur chloride gave a perfectly white product with the fresh oil, but when oxidized the product was very dark, almost black. The iodine absorption of the fresh oil thus obtained was very high, but fell rapidly by oxidation or blowing. A curious fact has been disclosed with reference to the oxidation of this and similar oils. If such an oil be mixed with lard oil, olive oil, or sperm oil, it thickens by oxidation, but is perfectly soluble. Such a mixture is largely used in weaving or spinning. Commercial samples of linseed oil, when cold drawn, have a much higher iodine absorption, probably due to the same cause. Oils extracted by carbon bisulphide are very much higher than the same oils, especially if hot pressed.—*Chem. News.*

DRUG MARKET.

Note—*Our prices are for large lot except when otherwise specified, and buyers of small quantities must expec to pay an advance on these figures.*

The prices current will be found on pages 39 and 40.

TUESDAY EVENING, July 30, 1889.

We find a very fair jobbing trade in progress in nearly all lines of drugs, but as yet large buyers show little disposition to take hold, and important transactions are consequently few and far between. There is evidently a better feeling in the market, and dealers are disposed to take a very hopeful view of the future. Mail advices from London to the 18th inst. report a very quiet market for the preceding week, and few changes of consequence in prices. In our market the fluctuations have been confined to the following named articles:

ADVANCED.	DECLINED.
Opium.	Balsam capaiba.
Cuttle bone.	Anise seed.
Quicksilver.	Red pepper,
Anise oil.	
Golden seal root.	
Senega root.	
Serpentaria root.	
D. C. shellac.	
Star anise.	
Cassia.	
Cloves.	
Pimento	

Opium.

The reduced estimates of the probable yield from the current crop. coupled with advicess of higher prices in London and the primary market have caused a much firmer feeling here. The bulk of the spot supply is controlled by three dealers who it is said are working in harmony to raise prices, in which effort they have already made considerable progress, it would appear, since at the close there were very little standarized to be had at $3 10, the general quotation being $3 15. Natural was held at $3 20@3 50. While there were no large buyers in the market, the demand for single cases and broken lots was very good. Powdered has advanced to $4 20@4 30 as to seller and test. We have received the following from Smyrna under date of July 13th: "There is no longer doubt that if the yield of 5,000 baskets is to be reached by the new crop (including the 1,250 baskets from Salonica) the fields on the high grounds must yield much more than the lower fields have shown up to the present moment—arrivals of 117 baskets against 570 in 1888, which certainly is a poor showing. It is true that in Constantinople, where they got the opium from the districts where the gathering was made in advance of the others this season, they had received 45 baskets against 125 last year, which is somewhat better than we can show, but is still awfully poor. Holders are very sanquine and will not sell their goods unless they get higher prices, and as they now have increased facilities for depositing their goods with banks at reasonable rates of interest, it is most probable that buyers will have to accept their terms. The stocks abroad were large, but as they have been kept all along at lower rates than what opium could be bought at in the primary markets, they have gradually melted down to reasonable quantities. London has hardly 1,000 cases, the greater part of which is Persian and high grade Turkish, not suitable for the American market. New York has about 500 cases which could be called 'in the market.' The balance is held by outsiders who would not part with their opium unless they get much higher prices for it. But all this is a matter of little consideration to the native merchant in Turkey; he holds on to his opium when he sees a small crop, and buyers will have either to live on the European and New York stocks or pay them something better than the starving prices they paid for the last few years." Since this was written, some cables advise crop estimates reduced to 4,500 baskets (including Salonica), and prices in Smyrna from 9s 3d to 9s 9d.

Quinine.

The improvement in the quinine market noted at the date of our last was accentuated to-day by reports from the London bark sales, showing that previous prices had been paid, a firm feeling prevailing throughout. The sale was somewhat smaller than the two which preceded it and the demand does not appear so urgent, as but 1,600 out of the 1,902 bales offered, were sold. Nevertheless the effect of the auction was to increase the confidence of holders here, and though a few holders of foreign brands could be found this afternoon who would accept 23½c the majority wanted 24@25c. There is a feeling here that a change is impending in the position of the foreign markets and this impression is strengthened by the assertion of a London authority that prices must go higher, and that at any rate there is no possibility of lower figures. Despite the improved feeling it is difficult to interest large buyers and no business of consequence has been done since our last. The consuming demand is brisk but it is fed from stocks scattered throughout the country in the hands of large dealers, and for that reason has no perceptible effect upon this market. For the do-

SULFONAL-Bayer

Manufactured by the

FARBENFABRIKEN, formerly Friedr. Bayer & Co.,

ELBERFELD.

SULFONAL IS PROTECTED BY UNITED STATES PATENT AND TRADE MARK.

August 1st, 1889. We quote: per oz

Sulfonal-Bayer, in oz. bottles.....$1.35

In lots 25 ozs,, " " 1.25

" 100 " " " 1.20

In ¼ ounce bottles five cents per ounce additional.

We also prepare Tablets and Pills of Sulfonal-Bayer.

Phenacetine-BAYER.

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We quote in

1 oz. bottles... ... .$1.00

In lots of 25 ozs.. .... .95

" " 100 ozs..... ..... .90

We prepare Pills of Phenacetine-Bayer containing 2 grs. 4 grs. and 5 grs. each.

W. H. Schieffelin & Co.,

170 & 172 William St.,

NEW YORK,

SOLE LICENSEES AND SOLE AGENTS FOR THE UNITED STATES.

NEW YORK

Quinine and Chemical Works, LIMITED

Office, 114 William St., New York.

MANUFACTURERS OF

QUININE, ACETANILID

MORPHINE

SANTONINE, ALOIN, COCAINE.

STRONG COMPETITION

Has Resulted in Lowering The Quality of

Norwegian Cod Liver Oil.

The high standard of the "MALTESE CROSS" brand, however has been fully maintained and is still the finest quality that comes to this mar ket.

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Price and Sample on Application.

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MANUFACTURING CHEMISTS, Philadelphia.

Quinine,	Sulphate, Muriate.	Ammonium, Bromide, Potassium, " SODIUM "	Hypophosphites, Subnitrate of Bismuth Spirits of Nitre, C. P. Acids, Tannin, Resublimed Iodine.
Morphine,	Sulphate, Acetate, Muriate.	Nitrate of Silver, Ammonia,	

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MANUFACTURING CHEMISTS.

Mannheim, Germany, and 49 Cedar Street, New York.

Sulphate of Quinine,

Acetanilid, [Antifebrin.]

Muriate of Cocaine, Boehringer.

WRITE FOR SPECIAL QUOTATIONS.

Swan Brand.

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Pure White

CASTILE SOAP.

Made in Italy out of the best quality of stock, equal to Contis brand, while the price is much lower.

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OFFER TO THE TRADE THEIR STRICTLY PRIME

QUININE

on spot and for future delivery, in quantities to suit at owest market quotations.

Represented by E. MERCK, 73 William St., New York.

Schoellkopf, Hartford & Maclagan,

Limited.

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WE OFFER ON SPOT:

500 lbs. true Cascara Sagrada, guaranteed one year old

3,000 lbs." " " prime thin.

5,000 lbs." " " thick.

WE ARE AGENTS FOR

HOWARDS & SONS,

London,

and offer on spot Caffeine, pure and Citrate.

We Offer

PARIS GREEN,

BAY RUM.

FRENCH, RICHARDS & Co.

Philadelphia, Pa.

ROGERS & PYATT,

80 Maiden Lane, New York.

Manufacturers of

Bleached Shellac & Spirit Varnishes

mestic brands an active consuming demand is reported. Regarding the last sale of Java bark in Amsterdam, Messrs. Schroeter & Co. write us from that city on the 19th, that 7@7¼ Dutch cents was paid per unit for bark for manufacture. Of long quills only a few small lots were offered and brought very good prices.

Receipts of quinine for the week.....	10,000
Since Jan. 1.....	1,662,555
Corresponding period last year.....	937,000

Miscellaneous.

Alcohol is meeting with a good jobbing demand at previous prices.

Borax is firm but rather quiet.

Citric acid is not selling to any extent and quotations are somewhat nominal though unchanged.

Cuttlefish bone is now held at 21c, but there does not appear to be much demand.

Cantharides are firmer abroad but there is no improvement here. It now costs, according to cable advices, 90c to lay Russian down here, at which figure small sales are making on the spot.

Ergot does not attract much attention, notwithstanding continued reports of advancing prices abroad as a result of poor crop prospects and a speculative demand. Small sales are making in this market at 28@32c for German and 40@45c for Spanish.

Hops are easier, owing to a continued lack of important demand. We quote:

	Cents
State, 1888, best.....	20 @—
State, do., prime.....	16 @18
State, do., common.....	12 @14
State, 1887, best.....	10 @11
State, do., good lots.....	8 @ 9
California, 1888, choice.....	18 @—
Do. common and prime.....	13 @16

Insect powder shows no further change. The consuming demand continues active, but we hear of no large transactions.

Quicksilver has continued to advance during the week, without, however, stimulating the demand. The upward movement is based upon reports of reduced supplies in London. Rothschild's price was cabled £9 15s this afternoon, and holders here immediately raised their quotations to 70@72c. A further advance is looked for.

Balsams.

The accumulation of supplies in first hands, together with bearish influences exerted by dealers, has caused a sharp decline in values of balsam copaiba during the week. It is reported that sales have been made from first hands at 41@42c, and jobbers are now quoting 45@50c for Central American grades, 55@60c for Para and 48c for Hamburg stock. The market, however, is very quiet, buyers evidently looking for further concessions. Other balsams are in moderate jobbing request at previous prices.

Barks.

The spot market for cascara sagrada is somewhat unsettled and a shade lower, owing to a recent accumulation of stocks and, it is said, because of a desire of dealers here to influence holders on the Pacific coast to accept lower prices. Reports from San Francisco are somewhat contradictory and their value depends largely on the channels through which they come. While some assert that the holders at the primary sources of supply are unwilling to go on at the prices recently obtainable others claim that plenty of stock is procurable there at as low if not lower prices than those last quoted. In this market some dealers find a very good demand while others report absolutely no inquiry either from home or export buyers. Quotations for spot goods vary according to holder the range being 10@12c for thin and 8@10c for thick bark. Several thousand pounds have changed hands during the week at about these figures.

Essential Oils.

A considerable movement in anise oil has resulted in concentrating the bulk of the stock in the hands of three dealers. The market is higher but still somewhat unsettled some holders demanding $1 65 while others will sell at $1.60. There is not much demand from consumers. The position of the article is treated of in our editorial columns.

The Messina essences are firmer with an upward tendency, but there has been no quotable change in prices and no increase in the demand.

Peppermint oil is gradually working into a better position but the absence of demand and the competition of Japanese oil make progress toward higher prices slow. There seems to be little doubt that the yield this year will be small or that the reported damage to the mint crop has been overdrawn. The range of quotations for bulk oil are $1 85@2 for Western and $2 10@2 30 for Wayne County, according to quantity and holder. Case oil is dull at $2 60@2 65.

Sassafras oil is firm at 42@44c, with a good demand and limited supplies.

Wintergreen oil has been advanced to $1 85 by some dealers, but there are sellers still at $1 75@1 80, as to quantity. The stock is said to be very light, but the comparatively low cost —$1 55—of synthetic oil, appears to prevent the sharp advance usually experienced under similar conditions at this season of the year.

Gums.

There has been rather more inquiry for the mucilaginous gums during the past few days, but business is restricted to jobbing limits. Tragacanths are higher again in London and are firmer, but not quotably higher here. Sales are reported of 30 cases, mostly second flake, at prices within our range, In other gums we find nothing new to report.

Roots.

Ginseng is dull and neglected, and with accumulating stocks prices favor the buyer; nominal quotations are $2 25@2 50 as to quality. Goldenseal is unsettled, but the tendency appears to be toward a much higher range of values. It is reported that sales have been made up to 35c, and 40c is now generally asked, but at the same time we heard of an offer to sell this afternoon at 30c. Senega is in about the same position as goldenseal. We heard of sales of 10,000 lbs for export at 35c and smaller sales at 38c, the latter being the general quotation at the close, but it was reported that some stock could still be procured at 35c. Serpentaria has continued to advance and we hear of sales of 2,000 lbs at 26@27¼c. There was little to be had at the close and 30c was demanded, but 25c was named as acceptable by one party. Jamaica ginger is receiving a little more attention and we note sales of 50 bbls unbleached at about 16c. The quotations are 16@16½c for unbleached, and 17½c for bleached. Other roots are without special feature of interest.

Shellac.

An effort has been made during the week to concentrate the stock of D. C. and V. S. O. shellac, resulting in sales of nearly 300 cases of the former and about 100 cases of the latter on private terms. The market for these two grades is said to be in much better shape, and holders have advanced their quotations to 27@27½c for D. C. and 21c for V. S. O. Other marks are unchanged. The jobbing demand is reported to be good but consumers show no interest in large lots and no business of consequence has been done apart from the sales above noted. The London sale to-day was reported as showing higher figures. There is no fresh news from Calcutta, the offerings from that market continuing very light and at prices above the views of American buyers.

Mr. Geo. M. Olcott of Messrs. Dodge & Olcott who is spending a well-earned vacation in Europe, writes to friends here that he is receiving great benefit from the treatment he is undergoing at the Mud baths of Valle de Royat, in France.

Boehringer's July Report.

Quinine.—In our last reports we drew especial attention to the falling off in the exports of Ceylon bark and receipts at Colombo by rail. This decrease has since become yet more marked, as is shown by the following figures:

	Pounds, about.
Exports of bark from Ceylon from October 1st, 1888, to June 29th, 1889..	8,250,000
Against 1887-88	8,900,000
Against 1886-87.....	12,038,000

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which was introduced by Johann B. Hoff in 1847, who registered under the firm of "Johann Hoff," at Berlin in 1862, and who established branch Houses in Vienna and Paris, etc. He received in 1861 the silver medal of the Society des sciences industrielles of Paris, for the excellency of his Malt Extract, and the gold medal of the Polytechnic Institute of Paris in 1862, **AT WHICH TIME Leopold Hoff,** who is now advertised through his agents as the "Originator" of "Hoff's" Malt Extract, and who has before the 1st of July, 1889, been proclaimed by the same house as the manufacturer of the **"Only Genuine Johann Hoff's Malt Extract," was just 18 to 19 years old** in accordance with his own testimony, and in the employ of Johann Hoff at his office in Vienna.

EISNER & MENDELSON CO.,

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6 Barclay St., New York.

	Tons, about.
Arrivals of bark at Colombo by rail, from Oct. 1st, 1888, to July 1st, 1889..	2,836
Do. do. do., from Oct. 1st, 1887, to July 1st, 1888	4,127

According to our information, the arrivals and shipments of Ceylon bark will continue on a small scale for some time to come.

In spite of the improved statistical position of bark; quinine remained neglected during the greater part of May, and business dragged on sluggishly. Some second hand parcels were sold as low as 11½d. Those who did not avail themselves of this rare occasion to buy quinine which—to use a vulgar expression—was really "dirt-cheap," will now regret the lost opportunity.

The public sale on June 18th went off at an advance of about ten per cent. and quinine has rallied to some extent. Sales were made by first and second hand at 1s 1d. To-day our price is 1s 1½d.

At the last London auction 1,823 packages of cuprea bark imported in 1881–83 were put up for sale. Part of this bark fetched only 1d a pound, a price which will barely cover half the warehouse rent, leaving the rest that is prime cost, all other charges, and interest, a dead loss to the owners. This result though very lamentable is not in other respects to be regretted, since it will help to render the position of the article somewhat healthier.

From South America an advance in the value of coca leaves is reported.

Caffeine and its salts are cheaper again.

Glycerine.—A very sharp rise has taken place in crude glycerine, which within a few weeks has jumped up from 32s. per cwt. to 40s.

Gallic Acid and Tannic Acid.—For once the reports from China about a short crop and small stocks of galls seem to have been correct. Galls have gone up 10 to 15 per cent, and we may soon have to ask more money for gallic and tannic acid.

Hydroquinone.—The introduction of a new process has greatly reduced the cost of manufacture and has consequently led to a reduction in the price.

Sulphonal.—The extremely keen competition between the existing eight or ten manufacturers has resulted in a further decline, the end of which we may not yet have seen. As things are, it seems advisable not to order more than is sufficient to meet immediate requirements.

Amylenhydrate.—This article is also offered at a lower price. We fear, however, that the reduction will not stimulate the consumption which has never been very extensive, and which was greatly curtailed by the introduction of sulphonal.

English Patents.

r Improved Method for Extracting Magnesia from Sea Water,

The sea water is treated with slaked lime and the magnesium hydrate for d, allowed to settle by making the liquors traverse very slowly extensive settling tanks. The slush deposited therein is carbonated, and the magnesium carbonate filter pressed and dried.

Improvements in Distilling, Purifying and Concentrating mmoniacal and other Liquids.

The object of this invention is the production of an apparatus by means of which a constant supply of solid reagents is obtained in distilling vessels. The distilling column, described in Eng. Pat. 3452 of 1884 is connected with a hopper, at the bottom of which revolves an endless feeding screw at a convenient speed. The hopper is also fitted with a stirring mechanism, which prevents the clogging of the material inside the hopper. When distilling ammoniacal liquors burnt lime is continuously supplied by this hopper to the column.

Improvements in the Process and Apparatus Used for Obtaining Anhydrous Liquid Ammonia.

Ammonical liquor is treated with steam in a still to drive off the ammonia, which after passing through several purifiers, is absorbed in distilled water. The concentrated solution of ammonia thus obtained is heated by a steam-coil, and the gaseous ammonia again liberated, made to pass through a receiver containing caustic lime, which eliminates all aqueous vapors. The gas is then admitted into a compressor where it is converted into a liquid.

An Improved Process for the Manufacture of Sugar of Lead.

Granulated or sheet lead is digested with acetic acid and such a quantity of oxygen-yielding compounds, such as nitric acid, nitric or nitrous salts of lead, sodium or potassium nitrate, lead peroxide, etc., as will just suffice to completely oxidize the lead. The whole is then heated nearly to boiling point, whilst the vapors evolved are condensed and permitted to flow back into the liquid. In order to carry out this process, 54 to 55 parts of dilute nitric acid of 1·2 sp. gr., 145 parts of 40 per cent. acetic acid, and 100 parts of lead are heated nearly to boiling until the metal is dissolved. The solution obtained, consisting of neutral lead acetate, is evaporated down to crystallization.

The London Quicksilver Market.

Recent reports from London show a very strong market for quicksilver with indications of a very high range of values during the next six months. According to last cable advices the principal operators had raised their quotations to £9 10s while outside holders were only 2s below them, a rather unusual circumstance. In a special report to the *Engineering and Mining Journal* Messrs. Markwald & Co. of London thus review the situation:

"The import season for quicksilver into the United Kingdom for 1889 being practically over, we can now place the actual figures before you:

	Bottles
Our import from the Almaden mines in Spain amounted to about	49,300
From other mines in Spain, about	500
" Italian mines, about	5,700
" Austrian mines, about	1,300
	56,800
And our export and home consumption during the same period, about	42,000
Leaving a surplus of	14,800

which, together with the stock left over on December 1, 1888, form our entire visible supply for the world until January, 1890, the beginning of the new season. What that stock on December 1, 1888 was, is most difficult to state accurately, because Messrs. Rothschild & Sons, who alone are in a position to know their own stock, do not publish any statistics. The estimates in the trade regarding this stock vary a great deal; some make it out as low as 25,000 bottles, others as much as 40,000; probably a figure between the two may prove near the mark.

"Compared with last year, when our imports from the Almaden mines were about 35,300 bottles, the reduction in the output is about 4,000 bottles this year. Also Italy and Austria have sent considerably less so far this year, but their producing season not being over yet, some surplus of these mines, if there is any, may still be shipped to London. But what may be of the greatest importance to the future of the quicksilver trade is the decision of the Spanish government, by the strong advices of their engineers and for geological reasons, to reduce their entire output for the coming season to net 40,000.

"With these prospects before us and the very important feature of the continued decreasing production of the New Almaden and other Californian mines, we can only repeat over and over again what we have asserted when the price of quicksilver was much lower than it now is, that this article will command in future a price quite different from its present one, but probably prices which are in our memory from the year 1873, 1874, 1875, namely, between £10 and £30.

"Our market during June ruled quiet, this month being always the quietest of the year, but nevertheless prices nid not decline, for apart from the firmness at Messrs. Rothschild & Sons', all the second-hand stuff is held most firmly."

Constitution of the Cinchona Alkaloids.

BY Z. H. SCRAUP.

The author has recently shown that the "second half" of cinchonine contains a nucleus which is certainly not a quinoline ring but is in all probability a piperidine ring, and this view is in accordance with what is already known of the behavior of cincholoipon and cincholoipic acid. Quinine when oxidized with chromic acid, yields, as is already known, quinine acid, $C_{11}H_9NO_5$, and syrupy products which are analogous to those obtained from cinchonine and which can be separated in two portions by saturating the syrup with bases and extracting with alcohol. The portion insoluble in al-

SPONGES.—A nice assortment of Turkish Sponges—Bath, Cup, Chimocas, for sale. A great bargain owing to retirement from business.

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50 cases Extra Prime Gum Asafoetida,
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10 cases Soc. Aloes, (in monkey skins)
5 casks True Barb Aloes, (in gourds)
25 bales Italian Aniseed
20 cases Gum Guaiac,
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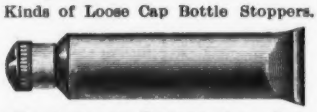

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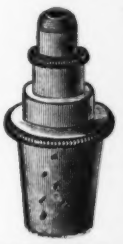

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Quotations and samples on Applica

cohol consists of salts of quinine acid, tricarbopyridinic acid and an amorphous nitrogenous acid which hitherto could not be obtained in a pure state. The last-named acid can, however, be easily prepared in a crystalline condition by oxidizing chitenine, $C_{19}H_{22}N_2O_4$, which, as the author has previously shown, is formed together with formic acid when quinine is carefully oxidized with potassium permanganate. Chitenine, prepared as previously described, when crystallized from alcohol, generally contains an impurity which can be removed by dissolving in warm ammonia, saturating the solution with carbonic anhydride, and repeating the process. It has no well-defined melting-point, but generally melts at about 265° when heated slowly. It does not combine with phenylhydrazine, but it yields an amorphous yellowish-red acetyl-derivative. It is reduced when treated with sodium amalgam in dilute sulphuric acid solution yielding an amorphous base, the aqueous solutions of which are intensely yellow colored. It yields an amorphous compound when treated with potash and ethyl iodide, and when heated with hydrobromic acid it is converted into hydrominide $C_{19}H_{22}N_2O_4$ 2HBr.

Oxidation of Chitenine.—The most important product of the oxidation of this substance by chromic acid (about 25 per cent. of the chitenine employed) consists of cincholoipic acid, the isolation of which is described in detail. This acid is obtained in the form of a syrup which could not be induced to crystallize, but when agitated with a little warm hydrochloric acid and a crystal of cincholoipic acid hydrochloride (from cinchonine) thrown into the cold mixture, the hydrochloride, $C_8H_{13}NO_4HCl$, separates in well defined prisms or in small crystals according to the concentration of the solution; further quantities of the salt can be obtained from the mother-liquors by converting into the lead salt, purifying the latter by repeatedly precipitating with alcohol, decomposing with sulphuretted hydrogen, and treating the resulting syrupy acid as described above. The cincholoipic acid and the hydrochloride thus obtained are identical in chemical, physical, and also in optical properties with the corresponding compounds obtained from cinchonine. It was also proved that from the mixture of neutral compounds which are formed when quinine is oxidized with chromic acid a compound can be isolated which is identical with cincholoipon obtained by oxidizing cinchonine.

If cincholoipic acid is heated for a short time on the water-bath it loses the power of crystallizing, and is precipitated in an amorphous condition when alcohol is added to the aqueous solution; even after dissolving in hydrochloric acid the salt does not crystallize until after some weeks. This fact explains why in former experiments cincholoipic acid and its hydrochloride were not obtained in a crystalline condition.

Cincholoipic acid is best prepared as follows: 55 gms. of commercial quinine sulphate are dissolved in 30 grms. of concentrated sulphuric acid, the solution made up to 500 cc., and each 100 cc. is mixed in the cold with 380 cc. of a 4 per cent. solution of potassium permanganate. After filtering from the manganese oxide the filtrate and washings are evaporated to about 1½ liters; the concentrated solution of chitenine thus obtained is heated on the water-bath and a solution of 80 grms. of chromic acid and an equivalent quantity of sulphuric acid is gradually run in. When oxidation is at an end the whole is poured into excess of potash, boiled, filtered, the filtrate neutralized with sulphuric acid, and the potassium sulphate allowed to separate as completely as possible. The mother-liquors are mixed with a large volume of alcohol, concentrated sulphuric acid added, and the whole vigorously shaken until the precipitate becomes colorless and crystalline. The alcohol is evaporated, the solution boiled with excess of lead carbonate, filtered, concentrated, and the residual lead salt precipitated three or four times from its aqueous solution with alcohol, decomposed with hydrogen sulphide and the filtrate acidified with hydrochloric acid and concentrated. On adding a crystal of the salt, cincholoipic acid (4—5 grms.) separates, and further quantities can be obtained from the mother liquors, as well as from the lead salt which remains in solution after precipitating with alcohol. This method is also recommended for the preparation of cincholoipic acid from cinchonine.

The author's investigations prove that the "second half" of quinine has the same constitution as that of cinchonine, so that the chemical difference between these two alkaloids is simply this, that quinine is a derivative of paramethoxy quinoline whilst cinchonine is a derivative of quinoline itself The manner in which the two nuclei are joined together may, however, differ in the two alkaloids. The further investigation of cincholoipon and cincholoipic acid will be of importance in ascertaining the constitution of quinine.

BY H. SCHNIDERSCHITSCH,

The isomeric alkaloids cinchonine and cinchonidine are very similar in properties and in their behavior toward reagents. When carefully oxidized with potassium permanganate they both yield formic acid and are converted into cinchotenine and cinchontenidine respectively; these two compounds have the composition $C_{18}H_{20}N_2O_3$, and both contain a hydrogen atom replaceable by the acetyl-group. Cinchonine and cinchonidine both yield cinchoninic acid when treated with chromic acid; this fact proves that both compounds are quinoline derivations, and that the hydroxyl-group must be situated in that portion of the molecule which is converted into cinchoninic acid. Comstock and Kœnigs showed that the difference in constitution between these two alkaloids must be very slight, as they can be both made to yield one and the same cinchonidine.

When cinchotenine or cinchotenidine is oxidized with chromic acid, cincholoipic acid is obtained in a crystalline condition. An aqueous solution of cinchotenidine, prepared by oxidizing cinchonidine with 4 per cent. potassium permanganate solution, was treated with chromic acid as described by Skraup (preceding abstract). Cinchoninic acid and an acid identical with cincholoipic acid from cinchonine were obtained, and as apparently no other product was formed the decomposition seems to take place in accordance with the equation—

$$C_{18}H_{20}N_2O_3 + O_4 = C_{10}H_7NO_2 + C_8H_{13}NO_4 + H_2O.$$

The formation of cincholoipic acid is a further proof that the difference in constitution between cinchonine and cinchonidine is extremely slight, and that in addition to the points noticed above with these two alkaloids have in common, they both contain one and the same complex consisting of eight carbon atoms which, on oxidation, yields cincholoipic acid, and is in all probability, a piperidine derivative. It may be that both alkaloids contain the same two constituent groups, and that their isomerism, if not purely physical, is due to some slight difference in the manner in which the two nuclei are combined together. If a compound identical with cincholoipon (from cinchonine) could be obtained from the necleus in cinchonidine which is not oxidized to cinchoninic acid this view would be proved to be correct.

BY J. WURSTL.

Quinidine, $C_{20}H_{24}N_2O_2$ (conquinine), is isomeric with quinine, and, like the latter, it forms salts which gives fluorescent solutions. Skraup (Annalen, 189, 340) has previously shown that quinine and quinidine are both oxidized by potassium permanganate, yielding formic acid and a base, $C_{19}H_{22}N_2O_4$. This decomposition shows that one of the 20 carbon atoms is similarly situated in both alkaloids.

Quinine and its first oxidation product, chitenine, when treated with chromic acid, yield, as has been shown by Skraup, quinic acid and an acid syrup from which cincholoipic acid can be isolated.

The author treated an aqueous solution of chitenidine, prepared by oxidizing quinidine sulphate with a 4 per cent. solution of potassium permanganate with chromic acid solution, as described by Skraup (preceding abstract), and obtained quinine acid and a cincholoipic acid identical with that formed from cinchonine, quinine, and cinchinidine. This fact proves that chinidine and quinine are both derived from a paramethoxyquinoline, and that the quinoline ring containing the methoxy-group is joined to the rest of the molecule in the same may as in quinine. In nether base can the hydroxyl-group be situated in that portion of the molecule which is oxidized to quinine acid, and both alkaloids contain the same complex, consisting of eight carbon atoms, to which the formation of cincholoipic acid is to be ascribed. The difference between the two alkaloids must, therefore, be due to a difference in constitution of the complex which does not yield quinic acid, and this difference cannot be greater than that between cinchonine and cinchonidine.

In determining the relation between the four cinchona alkaloids, it will be of great importance to ascertain whether a compound analogous to cincholoipon (from cinchonine and quinine) can be obtained from cinchonidine and quinidine—*Monatsh Chem.*

Bay Oil (Oleum Myrciae Acris).

OTTO MITTMANN.

(Continued from page 56, July 24, 1889.)

In general the behavior of this body with reagents was indifferent. It shows the properties of neither an acid, aldehyde, ketone, phenol nor ether. It is not acted upon by potash lye, and remains uncharged when fused with dry potassium hydrate, as was shown by a subsequent ultimate analysis. It absorbed bromine violently, without evolution of hydrobromic acid, and must therefore contain some free bonds. The results obtained by analysis lead to the formula $C_{11}H_{14}O_2$, which contains one atom of carbon and two atoms of hydrogen more than eugenol. In consideration of the fact that the compound is not a phenol, and shows by its reaction with bromine that it is not a saturated compound it appeared probable that it was the methyl ether of phenol. Further investigations affirmed this assumption.

The body was first oxidized with potassium permanganate by suspending it in water, but without the application of heat, and adding a solution of the oxidizing agent, until the liquid remained red for some time. The clear solution filtered from the manganese dioxide after evaporating to a small volume, gave with phosphoric acid a precipitate consisting of an acid, which on recrystallization from alcohol, had a pure white color, melted at 180° C., and had the composition of veratric acid, $C_9H_{10}O_4$.

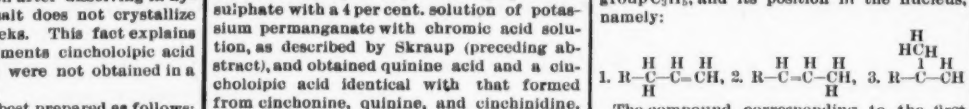
The silver salt of the acid was prepared by dissolving the acid in ammonium hydroxide, expelling the excess of the latter, and precipitating with silver nitrate. An analysis of the salt gave 37·57, and 37·91 per cent., while the theoretical percentage is 37·37.

In addition to veratric acid, a considerable quantity of carbon dioxide was formed by the oxidation, which could be recognized by the violent effervescence, when phosphoric acid was added. After precipitating all veratric acid, the strongly acid solution was diluted with water, and distilled with steam for the detection of any volatile acids that might have been formed. The reaction of the distillate was almost neutral, only the first few drops passing over, having an acid reaction. It did not reduce silver solution, and therefore contained no formic acid. On evaporating the solution with sodium carbonate, the addition of which produced no effervescence, and treating the residue with arsenious acid, no odor of cocodyl was perceptible, showing the absence of acetic acid. The contents of the distilling flask were then saturated with ammonia in excess and precipitated with calcium chloride. The resulting precipitate was warmed with acetic acid, in which it partly dissolved. The insoluble portion, which in nitric acid solution gave no reaction for phosphoric acid with ammonium molybdate, was filtered out, washed and dried. An analysis showed this precipitate to consist of calcium oxalate. By digesting the lime salt with a concentrated solution of potassium carbonate filtering off the calcium carbonate, precipitating the filtrate, with plumbic acetate, suspending precipitate in water, and decomposing with hydrogen sulphide, the free acid was obtained in aqueous solution, from which it crystallized on evaporation. The crystalline mass, after recrystallizing from alcohol dissolved in concentrated sulphuric acid without coloration, and with the evolution of carbon monoxide, burning with a blue flame. This also characterizes the oxalic acid.

During the oxidation, an agreeable vanilla odor was observed, which particularly adhered to the manganese dioxide precipitate, and was probably due to an immediate product of the oxidation. I could not obtain it in sufficient quantity for investigation.

The principal products of the oxidation of the compound $C_{11}H_{14}O_2$, therefore consisted of veratic acid, carbon dioxide and oxalic acid. The formation of veratic acid shows that the formula $C_6H_3 . C_3H_5 . OCH_3 . OCH_3$ is undoubtedly correct.

This formula, according to the accepted theory, may belong to the compounds according to the arrangement of the atoms in the group C_3H_5, and its position in the nucleus, namely:



The compound corresponding to the first formula contains the the true allyl group, as it is assumed to be present in eugenol and as is proven observed formation of homoranilic acid in the oxidation of the latter; the body thus constituted is therefore the true methyl-eugenol. The constitution of the second formula is assumed by Peterson, for a compound of the same composition found by him in oleum asari europaeic and which he erroneously declared to be the methyl-ether of eugenol; this compound moreover, if it possesses the ascribed constitution, must be looked upon as the methyl ether of the recently prepared isoeugenol. No body has yet been found in nature, or been prepared synthetically, that corresponds to the third formula: But there are no reasons, why such a compound should not exist, and hence the possibility of this constitution of the group C_3H_5, also deserves consideration.

In order to determine, whether the compound is identical with methyl eugenol, an assumption which is justified by the fact that eugenol itself is present in the oil, or whether it corresponds with one of the other formulæ, I made a comparison, at first with methyleugenol, which I prepared synthetically from eugenol, and then with the compound obtained the oil of asarum.

Pure methyleugenol was prepared by heating pure eugenol with alcoholic potash and methyl iodide on a reflux condenser. It was obtained as a colorless oil boiling at 243 to 245° C., and having the same odor, as the compound obtained by pressing out the eugenol-potassium. The corresponding constituent of oleum asari had an entirely different odor. The boiling points of the three oils did not essentially differ.

I next attempted the preparation of derivatives for further comparison.

Eugenol, according to recent investigations, when brominated in ethereal solution, forms a crystalline compound, which I obtained very fine and colorless by brominating in presence of potassium bromate. I then treated (a) the synthetically prepared methyl-eugenol; (b) the compound contained in bay oil, (c) the body of the same composition contained oleum asarum, in the same manner and under uniform conditions with bromine It was rapidly absorbed by all three of the oils, and without the formation of hydrobromic acid, as unlike Petersen, I also employed potassium bromate in this case. After the absorption was completed, the liquids were covered and allowed to stand, the liquids *a* and *b* had acquired a red color, while *c*, as already observed by Petersen, had assumed a green color. At the end of half a day, small stellar groups of needles crystallized out from the first two in exactly the same manner, and after the ether had evaporated the bottom of the vessel was covered with them. In the third, nothing but a viscous oil remained even after standing for several days, which gave no solid products when dissolved in hot alcohol or glacial acetic acid, and then cooled. The crystals from *a* and *b* after repeatedly washing with alcohol ether, in which they were partly soluble, were perfectly white, and in both cases melted at 83° C. They also both contained the same percentage of bromine, *a* equals 47·96 per cent. and *b* 48·01.

This percentage of bromine corresponds to the formula $C_{11}H_{14}O_2Br_2$, which requires 47·33 per cent.

It is apparent from this that the eugenol methyl ether (for in *a* this was used) does not like the above-mentioned bromide of eugenol itself contain bromine substituted in the nucleus, but bromine added to the allyl group only. It also follows from the identity of the bromides from *a* and *b* that the compounds themselves, which are alike also in odor, boiling point, etc., are the same, i. e., that the body contained in bay oil is the methyl ether of eugenol.

The body contained in oil of esarum having the same composition, except in the formation of veratric acids, shows no uniformity in its oxidation with those compounds. I was also able to confirm a further difference. From the compound investigated by Petersen I obtained, as he did, a very readily crystallizable product by the reaction with nitrous acid, while the synthetically prepared compound, as well as the methienqenol from bay oil under the same conditions, even after standing for months, gave only liquid products. Oleum asarium therefore does not contain the methyl ether of eugenol, but probably the methyl ether of isoeugenol, of the formula given by Petersen. It may however, also be the methyl ether of a second isoeugenol which has not yet been discovered or prepared, and having the third formula given above. Veratric acid must be formed in the oxidation of these two compounds, in the same manner as in the oxidation of the methyl ether of eugenol. Petersen, in oxidizing his oil, found in the products, in addition to veratric acid, oxalic acid, carbon dioxide and acetic acid. The formation of oxalic acid according to Petersen, was due to the splitting up of the benzol nucleus. The methyl eugenol obtained from bay oil, like that which was synthetically prepared, gave on oxidation, veratric acid, oxalic acid and carbon dioxide, but no acetic acid. The difference in the behavior of the two bodies, on account of their concordance in relation to veratric acid, can only be due to a difference in the constitution of the side group C_3H_5.

THE HIGH BOILING CONSTITUENTS OF THE OIL.

While all the distilling portions of the oil were perfectly miscible with alcohol and glacial acetic acid, the residue was almost insoluble in these. It therefore consists essentially of the body which caused the turbidity when the oil was mixed with these solvents. In order to free the substance from a dark colored resinous mass which it contained, it was repeatedly dissolved in ether and precipitated with alcohol. It could not however, be perfectly purified in this manner. After repeating the operation 10 to 12 times, it consisted of a brown, viscous, odorless mass, which was readily soluble in ether, petroleum ether, chloroform, &c., but insoluble in solvents miscible with water.

In order to obtain some information regarding the nature of this body, whether it was a methane or benzol derivative, it was at first dissolved in petroleum ether, and treated with concentrated sulphuric acid; after neutralizing with barium carbonate no barium salt of a sulpho acid was obtained. Fused with potassium hydroxide, the body was not acted upon. It violently absorbed bromine. Numerous ultimate analyses of the substance were made, and they showed the presence of 9 to 10 per cent of oxygen. By repeatedly purifying the substance, in the above described manner, the percentage of oxygen was continually reduced, until it was finally found no longer to contain oxygen. When this stage was reached the compound in petroleum ether solution also ceased to react with sodium. The resulting analyses then gave results corresponding with the composition of terpenes. This fact, together with its insolubility in alcohol and high boiling point, justified the conclusion that the body was a high boiling polyterpene, such as is found in oil of cloves, and that it was probably diterpene $C_{20}H_{32}$.

In its physical properties, solubility, nonvolatility, consistency, &c., it corresponds with the above described diterpene, obtained by the polymerization of the low boiling terpene in a sealed tube. The identity of the two was also indicated by the bromides.

According to the above investigation, we therefore have in bay oil:

1. Terpenes. (*a*) Pinene; (*b*) dipentine, the existence of which has not been positively established, but is very probable; (*c*) a polyterpene, probably diterpentene.
2. Eugenol, as essential constituent.
3. The methyl ether of eugenol, in small quantity.—*Arch. der Pharm.*

mand is slow and we have heard of no transactions. For spot stock, according to quantity, 1 90@2c is quoted and the same figures apply to goods to arrive, according to date of sailing.

Cream tartar is without change, the same conditions governing the market as for some time past. The wants of buyers are moderate and easily supplied.

Ammonias, Potashes and Fertilizing Chemicals.

For the fertilizer chemicals the season is practically over, but there is already a number of inquiries for fall supplies, and the outlook is favorable for a good business within a few weeks. The tone of the market is steady, and prices remain the same as at the date of our last.

Chlorate of potash is sympathizing with the upward tendency of the primary market and holders here are not now disposed to shade 13c, though we hear of little business yet on that basis.

Muriate of potash is quiet, but prices are well maintained. We note sales of 100 tons at full prices.

Double manure salt is without animation and no business of consequence has come under our notice during the week. The market is firm, however, and we find no change in quotations to record. We therefore continue to quote 1 20c, basis of 48%, for spot, and 1 15c for 50 ton lots to arrive. High grade manure salt is quotable at 2 30@2 32½c, basis of 90%, ex store, and $2 50 to arrive in 50 ton lots.

Philadelphia Chemical Market.

PHILADELPHIA, July 29, 1889.

The market for English chemicals has been without any special features during the past week, the demand being light and mostly confined to jobbing orders. In prices there has been no change worthy of note with the exception of bleaching powders, which are somewhat higher than at last report. The arrivals have been exceedingly light and mostly placed on contract.

Carbonated soda ash, Liverpool, 48%, is quiet for spot goods, with only limited inquiry for forward deliveries. On spot we quote 1 30@1 37½c, and shipments at 1 27½@1 35c. In 58% there is nothing new to report, trade being far from active, and holders' views unchanged.

Caustic soda ash is in fair supply and orders confined to jobbing parcels, and for which 1 32@1 35c will buy and shipments are quoted at 1 27½@1 32½c.

Caustic soda continues quiet, buyers showing but little disposition to take hold of larger lots than are actually required for immediate use; 60% on spot is firm at 2 55@2 70c in a jobbing way, and these figures also apply to shipments, with business possible as low as 2 50@2 60c. In 70% a limited jobbing demand is in progress at 2 30@2 40c. Shipments are held at 2 22½@2 30c. In 74% there has been no change in figures from last report, and no business of any moment reported.

Sal soda, owing to a moderate supply is firmly held at 95@1 05c from store and dock with a few jobbing sales reported within the range. Shipments are quoted at 87½@95c and these figures might possibly be shaded on firm offer

Bleaching powders are higher on spot, both on account of the prices on the other side and the scarcity of spot good at the moment. A somewhat speculative activity has been noted during the past few days and several parcels reported as having changed hand. From dock early in the week the quotations of sales were at 1 85@1 95c and the asking figures for lots from store now are 1 87½@2c, as to quantity. To arrive and for shipments 1 77½@1 85c is named, but possibly on offer 1 75c would be accepted for round lots, B. M. 48% alkali is doing fairly well at 1 27½@1 32½c for spot goods and 1 25@1 30c for lots to arrive or for shipment. B M 58% is scarce and only obtainable from second hands at 1 27½@1 32½c and to arrive and for shipments 1 20@1 27½ is asked, holders being firm at this.

Nitrate of soda on spot is quoted at 2 10@2 25 and shipments at 1 85@2c.

An Export Duty on Asphalt.

A legislative order was passed some time ago in the West Indian Island of Trinidad which may affect the commercial position of asphalt. The order raises the export duty on asphalt from 2s to 5s a ton, and the receipts from this source have been more than trebled in 1888. Most of the asphalt shipped is obtained from the Pitch lake, which is the property of the Crown. The whole of the lake, with the exception of five acres, was from time to time between 1867 and February, 1888, leased at almost nominal rates to private individuals or companies, but so long as the five acre reserve was maintained no monopoly could be established. In November, 1886, the Government gave notice that licences would be issued for the winning of pitch from this five acre lot. The lessees, who, it appears, had formed some sort of a coalition, ventured to dispute the right of the Government to grant such licences; but their appeal to the Privy Council was rejected. They thereupon adopted other means, and after much negotiation it was arranged that they should be granted a concession entitling them to the exclusive right of winning asphalt from the lake on paying a royalty of 1s 8d and an export duty of 5s for every ton shipped, they on their part engaging to ship not less than 30,000 tons per annum. The minimum payment to be made by the concessionaires is thus fixed at £10,000 a year, which, as already stated, is very largely in excess of the annual income formerly derived from the Pitch Lake. The new arrangement is working very satisfactorily, and thus the colony has turned to profitable account a mine of wealth which has hitherto been regarded as little more than a natural curiosity and a show place for persons visiting the island.

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The Free Caustic Alkali of Soap.

The author has already pointed out that there is a source of error in the spirit method, and this error is due to the simultaneous presence of free alkali and free fat or oil.

When high class soaps are analyzed, containing no free glycerides, the spirit method gives very accurate results; but any analyst who has to deal with soaps of any quality, and made in the most imperfect manner, will find the alcohol process perplexing. Hence, the author has no hesitation in saying that the determination of free caustic alkali in some soaps is one of the most difficult problems met with in practice. The conditions necessary to ensure the stability of the soap (i. e., the decomposition into an acid soap and free caustic alkali) are just those conditions necessary to ensue the absolute saponification of the glycerides by the free caustic alkali present. To any expert in soap analysis, the presence of free alkali and glycerides in the sample simultaneously is easily seen; on the addition of alcohol with phenolphthalein the color goes deep, then gradually fades and may disappear altogether.

The method depending on insolubility of soap in strong brine has been proved to give the most inaccurate results, whilst that depending on precipitation of the alkali by carbonic dioxide gas, the solvent for the soap being alcohol, gives the same conditions necessary for complete saponification, as stated above; hence, this process is of no use. It is necessary to bear these facts in mind in these days, when we hear so much about the absence of free alkali in certain soaps.

In using the alcohol process for determining free caustic alkali, it is necessary to use nearly, or, better, absolute alcohol, and to conduct the operation with the least possible access of air. Moreover, the alcohol should be used largely and in due regard to the percentage of water in the soap.

In these cases, on account of the presence of free fat, the alcohol process must be abandoned if good results are required, and it will be better to state the results in this form:

Alkali in total, per cent. Alkali combined with fatty acids, per cent.

If the alkali existing as silicate and carbonate be very carefully determined, some idea may be gained of the alkali actually present as sodium hydrate. Supposing palm nut oil or cocoanut oil to have been used in the fabrication of the soap, the determination of the Na_2O required to neutralize the fatty acids becomes quite inaccurate, owing to the solubility of the lower fatty acids; hence, another complication arises.

In order to show the differences between the above methods, a few analyses may be quoted:

Nature of the sample.	Alkali Na_2O by titration. Per ct.	Alkali by titration of the insoluble fatty acids. Per ct.	Alkali by alcohol test. Per ct.
1. Palm oil soap, cold process	5·00	4·59	0·00
2. Highly watered soap from bone fat	3·51	0·71	0·31
3. Palm oil soap, similar to No. 1	5·61	5·39	0·00
4. Common soap for calico-printers	6·95	6·31	0·38
5. Soap from tallow and cocoanut oil	3·59	2·52	0·167
6. Washing soap sold in North of England	7·33	7·70	0·017

The article sold for calico printers' use, known as soluble oil, which is made from castor oil, consisting therefore of the sodium salt of ricinoleic acid, is required to be as neutral as possible; hence some makers, after saponification, add hydrochloric acid to neutralize the excess of alkali, which of course is overstepped, and free fatty acid results. Its usual composition is:

	Per cent.
Free fatty acid as ricinoleic acid	4·75
Total fatty acids	20·50
Total alkali	1·67

On decomposition of this soap with subsequent titration of the washed fatty acids the washed cc. of alkali used for neutralization must be corrected by that required to neutralize the free fatty acids. Samples No. 1 and 3 in the table contained matured glycerides easily detected as previously mentioned. That the figure 0·31 per cent., corresponding to soap No. 2 is incorrect was proved by estimation of the carbonate and silicate in the soap. The last soap in the table actually gave results higher in the third column than in the total column.—*Chemical News.*

The Manufacture of Ammonia.

In his address at the annual meeting of the British Society of Chemical Industry the president, Ludwig Mond, discussed the process of manufacturing ammonia, the following abstract of his paper being taken from the *Chemist and Druggist*:

At the inaugural meeting of the society eight years ago Mr. Mond, in speaking of the patent laws of England, had occasion to mention what had been done in regard to the production of ammonia by processes which had been patented, and now he proposed to say something about what had been done by himself in the interval. Since Lawes and Gilbert have proved, contrary to the opinions of Liebig, the value of ammonia or nitrogenous materials as a manure, the immense importance of the supply of ammonia to the Old World had been recognized, and it is of the highest necessity that this supply should be obtained at the cheapest rate. For many years we have paid millions of money to South America for guano and (when the supply of that was exhausted) for nitrates, so that now we receive 650,000 tons of nitrate of soda per annum, the value of which is £6,500,000. Can we not save some of this expenditure by securing the commodity from sources at our own command? Now we have three main sources of nitrogen, the more noteworthy constituent of the two which Berthollet proved ammonia to be composed of. These are the nitrogen of animal matter, the nitrogen of vegetable matter and the nitrogen of the air. Animal matter was the original source; it was from this that the Egyptions obtained it; while bones and horns were long used for its production. Advancing with the centuries we come to the age of coal gas. Coal, a substance of vegetable origin, is comparatively rich in nitrogen, and by proper methods it has been possible to secure much of this in the form of ammonia. Shale, likewise, has yielded some; so have the close ovens of coke: and more recently the condensation of blast furnace gases has yielded much ammonia, the possible total on this item being 40,000 tons of ammonia sulphate per annum, the grand total from all sources in the United Kingom being at present 120,000 tons, a figure which compares badly with the 650,000 tons of nitrate that we import from South America.

Mr. Mond's researches bearing upon the solution of the problems involved in the cheap production of ammonia, commenced as far back as 1861. When working on waste animal litter containing nitrogen equal to 10 to 15 per cent. of ammonia, he found that the actual yield was only half. The addition of lime increased this to the extent of 1 to 1½ per cent. only, and other means which were tried did not give better results. Later, while working in an animal charcoal factory, he found that the ammonia yield was again below the theoretical amount, and the endeavors to get that were futile. In 1879 his connections with the alkali industry made the solution of the problem of enhanced value to him, and then began the researches which formed the basis of this address. As there are three sources, so are their three ways of building up ammonia. First, by combining nitrogen and hydrogen at high temperatures or by the influence of electricity; second, by the formation of nitrites, and the subsequent reduction thereof into ammona by the influence of hydrogen or steam; and third, by the formation of cyanogen and by acting on that with steam, converting its nitrogen into ammonia. In experiments on the first method we have not yet sufficiently far with the economic production of electricity to make that force the gigantic wedding-tie between the light-footed hydrogen and the sombre nitorogen. High temperature are therefore resorted to, the mixed gases being passed over ignited coke. But Mr. Mond observed that coke itself contains nitrogen, and experiment showed that the yield of ammonia, no matter what sort of nitrogen was passed over the coke, is equivalent to the amount of nitrogen in the coke. Moreover, the same is obtained when steam alone is passed over the coke. It follows that this first method is impracticable—we cannot in this way obtain ammonia from atmospheric nitrogen. Experimenting on the second method—the intervention of nitrites—it was found that nitrite of boron did with steam undoubtedly give ammonia gas and boracic acid, but there are practical difficulties (such as the volatilization of the boracic acid) which make it impossible. Nitrate of titanium seemed to be a promising method, for according to Demonte, when a mixture of nitrogen and hydrogen is passed over it the gases combine; but Mr. Mond found that only as much ammonia is obtained as corresponds with what the nitrite is capable of yielding, and no more. Other negative results added to these disposed of the second method, and we come to the third, which may be called an improvement on Margueritte and Sourdeval's method.

This consists in heating a mixture of carbonate of barium and carbon in the presence of nitrogen, thereby producing cyanide of barium. This being treated with steam yields ammonia and regenerates the carbonate of barium employed. Corbonate of barium fuses at the high temperatures which are necessary for the reaction, and to obviate this Mr. Mond makes it into balls with charcoal and pitch, this condition entirely overcoming a drawback which otherwise would be fatal to the process. The yield of cyanide of barium is 33 per cent., a figure which is considered highly satisfactory; this cyanide decomposes to carbonate on cooling, and although it is not acted upon by carbonic oxide it is acted on by carbonic acid gas, so for these reasons it is necessary to conduct the reaction in a closed vessel. The apparatus used on the large scale was here described by Mr. Mond, who showed and explained an excellent diagram of it. The apparatus consists essentially of a retort—very long in comparison to its width—the upper and greater part of which is made of clay, and the lower part of iron. This is inserted in a brickwork flue communicating directly with a powerful furnace at the left. The retort is charged with the balls of barium carbonate, and through an opening at the bottom the gas which is to act thereon is admitted. It is at the middle of the retort where the critical change takes place, this being the part where the heat is greatest; and as the cyanide is formed, it descends the retort to the iron portion, where it cools. In working this process Mr. Mond used as the source of nitrogen the gases which escape from the carbonating towers used in the ammonia-soda process. In many respects the experiments may be said, to have been a complete success, but meanwhile the director of the investigations had found it possible to obtain at a reasonable cost a large supply of ammonia from the immense stores of nitrogen in coal.

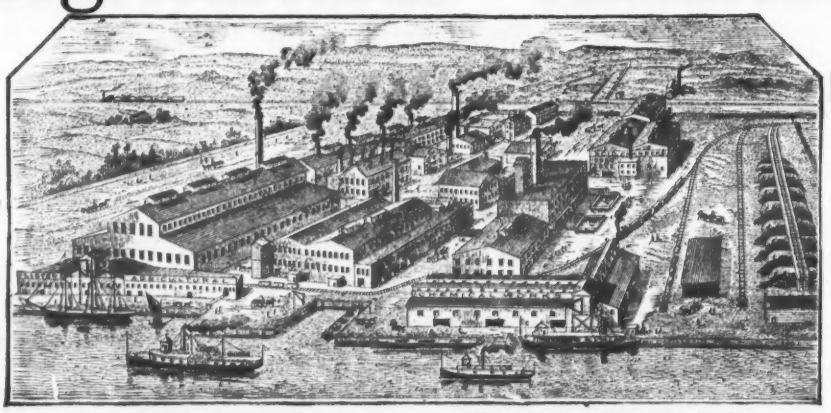
Preliminary experiments had shown that when steam and air are passed over burning coal, the yield of ammonia is entirely derived from the coal, so that the admixture of air is not necessary for its production. It happens, however, that steam alone is not economic. It requires gigantic and costly apparatus, whereas the mixture of air and steam requires only a small apparatus; and even though the yield of ammonia may only be one-half of the theory, the result is good. For every ton of coal used two tons of steam are required; this is the principal item of cost. Coal varies little as to the amount of nitrogen it contains, one-half to one-sixth per cent being the average of the various kinds analyzed. The amount of sulphate of ammonia obtained per ton of coal by Mr. Mond's process is 32 kilos, or twice as much as the gas works have succeeded in obtaining. Here the speaker gave some interesting figures bearing upon the subject. First we may note that only one-third of the steam which is used is decomposed; the rest would pass away charged with an immense amount of latent heat (the temperature is 450° C.), which it is the object of the practical man to utilize. How this could be done was the prime difficulty of the research. Obviously steam costs money in fuel, and it is apparent that the latent heat of that which is not used might be utilized in the production of more steam. Here we may work in Mr. Mond's account of how he did this, with his description of the plant, beautiful models of which were on the lecture table, and excellent diagrams adorned the walls. We may for convenience divide the plant into three principal parts: (1) The furnace, or gas producer; (2) mechanical washer; and (3) the series of scrubbers. The gas producer is a large fire clay furnace, in shape somewhat like an inverted pickle bottle with a funnel mouth. The base of this furnace is luted with water, above which there is an opening for the admission of air and steam. The furnace is charged by means of hoppers, one at each end of the hanging arch which occupies the center of the top interior. By means of a suitable pipe the products of combustion pass into a rectangular chamber or mechanical washer. By the top of this it enters, the temperature being 450° C. at the least. Here it meets with a fine spray of water formed by revolving beaters placed at the bottom of the washer, which is really a well. At this stage a fair quantity of ammonia is washed out of the gas: so also are solid matters and tarry substances; in fact, the gas is in a sense cleaned, but it still retains a high temperature. To cool it further it is passed through the series of three scrubbers. We shall not attempt to describe these minutely, as the diagrams are necessary to properly understand the details. In size they are not unlike Glover's towers, and their position beside the gas producer ond washers is somewhat like this:

S. | | | Washers. G. P.

The first two scrubbers are packed with perforated stone blocks. Into the first of these the gas passes from the washer, and meets a slowly trickling stream of sulphuric acid, sufficient to saturate the ammonia, which is about 2½ per cent of free acid. Down this scrubber the liquid passes, and is drawn off into the settler S, where the tar rises to the surface, and the sulphate is pumped away to be further purified by washing with heavy tar oils in order to remove such organic bodies as they will dissolve, while the aqueous portion is evaporated, and yields a grey sulphate of ammonia, which is worth £12 per ton. In the second scrubber this washing process is practically completed, and the hot gas and steam heat the water employed to such a degree that it is used for warming the air used in the gas-producer, and saturating it with steam at 78° C. The third scrubber is filled with perforated wood blocks, and here the cooling process is completed, the cool gas passing away at a temperature varying from 40° C. to 50° C. to the gasometers, or directly to the furnaces, where it is burnt. The result of this washing and cooling process is that the heat of the two-thirds of the steam which are not decomposed in the gas producers are saved. Mr. Mond showed by figures that very little of the usable matter of the coal is lost. The cinders contain 33 per cent. of the carbon, and a successful attempt has been made by sorting to economize this, the loss of carbon only amounting to 3 per cent. The purified gas consists af 15 per cent. of carbonic dioxide, 10 per cent. of carbonic oxide, 23 per cent. of nitrogen, 3 per cent. of hydrocarbons, and 49

Listers Agricultural Chemical Works.

Bone Black for Oil Refineries a Specialty—also for Sugar Refineries. Glue, Grease, &c., &c.



Fertilizers of all Kinds, Refuse Bone Black, Sulphate of Ammonia, and other Chemicals.

Factory, NEWARK, N. J. Office, 159 Front St., NEW YORK.

er cent of hrdrogen. It represents 73 per cent. of the total amount of coloric in the coal. Taking everything into account, at the most only 20 per cent. of the substance and energy is not accounted for, or which is not put to a useful purpose.

Regarding the sulphate of ammonia, from every 6¼ tons of coal used 1 ton of the sulphate is produced. The cost of this for fuel is 35s at the works, sulphuric acid, labor, and other incidental expenses bringing up the figure to £4 10s to £5, leaving the large margin of £7 for profit, and wear and tear of the plant, the latter being but trivial. The total quantity of sulphate of ammonia, which could in this way be obtained from the 150,000,000 tons of coal annually consumed in the United Kingdom would be 5,000,000 tons, so that it would suffice to treat one-tenth of our total consumption of fuel to produce the 500,000 tons of ammonia required to replace the whole of the nitrate of soda now imported into Europe. It is apparent that not the least advantage of the process is that it makes smoky chimneys impossible. Of course it is adapted only for large consumers of coal. After referring to the use of hydrochloric instead of sulphuric acid in the scrubbers, Mr. Mond describes a dry gas battery invented by him self and Dr. Carl Langer, which has been designed to produce electricity direct from the gases made in his producers, and a new process for converting the carbonic oxide and carbo-hydrates contained in these gases into their equivalent of hydrogen by passing them together with steam over metallic nickel or cobalt at a moderate temperature, so as to make them suitable for use in the gas battery. This battery consists of diaphragms of gypsum inserted in a harrow-like frame impregnated with sulphuric acid, and covered on both sides with very thin perforated platinum leaf and a thin film of platinum black, which are connected to the poles of the battery by suitable conductors, composed of antimony and lead, and are exposed on one side to gases containing hydrogen, and on the other to atmospheric air. In this way an electric current is set up. The hydrogen is oxidized to water, and fully 50 per cent of the energy it can yield is converted into electricity. This is an immense increase upon the best results obtained by steam engines and dynamos, which do not utilize more than 8 per cent of the energy in the fuel employed. In shape the battery is oblong, the measurements being about 12 inches long, 8 inches broad, and 4 inches deep. Into this the diaphragms, which somewhat resemble a chessboard, are placed. In the course of the address, Dr. Langer put two cells in action, suspending a small electric lamp from the poles, and this glowed with astonishing brightness during the concluding part of the lecture. The quantity of platinum used is: Perforated thin foil 2½ grains, platinum black 7 grains, for each diaphragm. Considering the importance and interest of the address, Mr. Mond's concluding sentence came upon the meeting with peculiar force, and it was received with prolonged applause. He remarked that the old saying, "Necessity is the mother of invention," no longer holds good in our days, when by the progress of science we are enabled to foresee and forestall our wants, but it may truly be said that steady methodical research is the father of industrial progress.

The Fertilizer Trade in Georgia.

REPORT OF THE DEPARTMENT OF AGRICULTURE.

During the season of 1888-89, commencing October 1, 1888, and ending September 30, 1889, there have been inspected, analyzed and admitted to sale in Georgia (to date of this report July 10) 202,869·36 tons of commercial fertilizers and chemicals. The season practically closed about the first of May; only one or two inspections of small amounts, occurring after that date. The inspectors at Savannah, Augusta and Toccoa, may be called station inspectors, their work being confined almost exclusively to the points at which they are stationed. The remaining three inspectors may be called traveling inspectors, since they are assigned to the duty of inspecting the products of the interior factories of the State, and those shipments that enter the State at points at which no inspectors are stationed.

The following table shows the number of tons inspected for each of the last fourteen seasons in Georgia:

Year.	Tons.
1875-6	55,316·00
1876-7	75,824.00
1877-8	93,878·00
1878-9	85,049·00
1879-80	119,583·00
1880-1	152,404·00
1881-2	125,427·00
1882-3	125,377·00
1883-4	151,849·00
1884-5	170,153·00
1885-6	160,705·00
1886-7	166,078·08
1887-8	208,007·39
1888-9	202,869·36

Of the whole amount of fertilizers placed upon the market during the last season, 154,502·68 tons were ammoniated superphosphates and 42,151·68 tons were acid phosphates or dissolved bones. It is well to remark that those brands which contain not less than eight per cent. of available phosphoric acid and two per cent. of ammonia, are classed as ammoniated superphosphates, and those containing less than two per cent. of ammonia, and not less than 10 per cent. of available phosphoric acid, are classed as acid phosphates or dissolved bones. The fertilizing materials which do not belong to either of the foregoing, are classed as chemicals and compounds other than ammoniated superphosphates and dissolved bones. Of this class there were 6,155·50 tons inspected and analyzed.

The number of tons of acid phosphates or dissolved bones inspected in Georgia during the past fourteen seasons, is as follows:

Years.	Tons.
1875-6	6,499
1876-7	12,842
1877-8	15,332
1878-9	10,291
1879-80	15,906
1880-1	22,036
1881-2	30,602
1882-3	31,017
1883-4	39,154
1884-5	35,012
1885-6	37,451
1886-7	40,899
1887-8	67,978
1888-9	42,051

Of the whole quantity inspected, the percentage of acid phosphate for each season is as follows:

	Per cent.
1875-6	11·16
1876-7	12·82
1877-8	19·62
1878-9	12·22
1879-80	11·65
1880-1	15·11
1881-2	16·42
1882-3	24·73
1883-4	25·78
1884-5	20·55
1885-6	23·34
1886-7	24·62
1887-8	30·74
1888-9	20·70

The following averages for the past fourteen seasons will be found interesting:

GENERAL AVERAGES OF ALL FERTILIZERS.

	Available phosphoric acid.	Ammonia.	Potash.
1874-5	9·23	2·55	5·17
1875-6	10·94	2·53	2·49
1876-7	10·87	2·52	2·75
1877-8	11·43	2·79	2·23
1878-9	11·15	2·70	1·66
1879-80	10·24	2·58	1·33
1880-1	10·96	2·53	1·41
1881-2	10·88	2·48	1·47
1882-3	11·03	2·53	1·50
1883-4	10·82	2·47	1·55
1884-5	11·13	2·24	1·44
1885-6	11·01	2·43	1·65
1886-7	11·39	2·45	1·94
1887-8	11·66	2·46	2·12
1888-9	11·48	2·80	1·94

These are the general averages of all fertilizers, including acid phosphates, for the seasons named. It is proper to remark that the averages of ammonia and potash are of those brands only which are shown by analysis to contain these elements, and not of the whole number of brands analyzed.

AVERAGES OF AMMONIATED FERTILIZERS.

	Available phosphoric acid.	Ammonia.	Potash.
1874-5	8·73	2·84	5·31
1875-6	10·36	2·98	2·79
1876-7	10·51	2·73	2·43
1877-8	10·83	2·79	2·25
1878-9	11·52	2·70	1·64
1879-80	9·53	2·59	1·35
1880-1	10·30	2·53	1·45
1881-2	10·20	2·48	2·58
1882-3	10·22	2·53	1·48
1883-4	9·78	2·47	1·57
1884-5	10·35	2·29	1·51
1885-6	10·15	2·43	1·64
1886-7	10·30	2·45	1·96
1887-8	10·47	2·46	2·14
1888-9	10·30	2·80	1·90

AVERAGES OF NON-AMMONIATED FERTILIZERS.

	Available phosphoric acid.	Potash.
1874-5	11·05	3·85
1875-6	11·99	4·64
1876-7	11·68	4·54
1877-8	13·10	2·16
1878-9	13·20	1·63
1879-80	12·44	1·28
1880-1	12·60	1·30
1881-2	12·48	1·05
1882-3	12·55	1·56
1883-4	12·59	1·48
1884-5	12·87	1·30
1885-6	12·62	1·68
1886-7	13·45	1·85
1887-8	13·81	2·07
1888-9	13·96	1·81

The number of brands inspected, analyzed and placed upon the market for each season since the organization of the department, is as follows:

	Brands.
1874-5	110
1875-6	101
1876-7	125
1877-8	127
1878-9	162
1879-80	182
1880-1	226
1881-2	270
1882-3	254
1883-4	336
1884-5	369
1885-6	345
1886-7	322
1887-8	337
1888-9	355

These are exclusive of chemicals and other preparations for making or composting manures at home.

The numbers of brands of ammoniated and non-ammoniated fertilizers for each season, is as follows:

	Ammoniated.	Non-ammoniated.
1874-5	86	24
1875-6	68	33
1876-7	85	40
1877-8	90	37
1878-9	119	43
1879-80	135	47
1880-1	163	66
1881-2	187	83
1882-3	239	115
1883-4	210	126
1884-5	229	140
1885-6	215	130
1886-7	206	116
1887-8	242	135
1888-9	254	101

Relative Commercial Values of Fertilizers.

(Extract from circular of Department of Agriculture of Georgia.)

The estimation of "Relative Commercial Values" of fertilizers has been the uniform practice of the Department since the first fertilizer bulletin was published in June, 1885. It was not the intention of the Commissioner to indicate by the publication of these values the absolute prices at which fertilizers should be sold to the farmer, but simply to enable the farmer to compare the commercial quality and probable agricultural value of the different brands with each other. The idea was well expressed in the following extract from Circular No. 9, (New Series) issued July 24, 1880:

"If each fertilizer contained but one valuable ingredient, the percentages of that ingredient would correctly indicate the comparative value of the fertilizer. But as the large majority of the brands contain two or more ingredients differing widely in agricultural and commercial value, and in the percentages in which they enter into the composition, it is found very convenient to add together the calculated commercial value, in dollars and cents, of each ingredient, as a basis of comparison and a guide to the purchaser."

By the usual correspondence, and otherwise, the Commissioner has ascertained that there has been a material advance in the cost of materials of which commercial fertilizers are manufactured, due, probably, to the unusually large consumption of fertilizers the past year. This advance makes it proper to raise the valuations on which are the basis of the calculations of "Relative Commercial Values" in the following tables. For the season of 1887-'88, the following were the valuations of elements:

	Cents per lb.
Available phosphoric acid	6
Ammonia	14
Potash [K_2O.]	5

For the present season the following has been fixed by the Commissioner as the valuations:

	Cents per lb.
Available phosphoric acid	7
Ammonia	15
Potash [K_2O.]	5

This is an increase of one cent per pound in the valuation each of available phosphoric acid and ammonia, as compared with last season, potash remaining the same, and will account for the higher relative commercial values of brands of fertilizers which show no higher analysis than they did last season. The effect on relative values, of this change in the valuations of elements is thus illustrated: A fertilizer containing 10 per cent. of available phosphoric acid and 3 per cent. of ammonia, would have been rated last season at $20 40 per ton; while the same fertilizer, having precisely the same analysis, will be rated at $23 00 per ton the present season.

History and Present Condition of the Whale Fishery.

BY A. HOWARD CLARK FOR THE U. S. FISH COMMISSION.

(Continued from page 60, July 24.)

Through the exertions of Jefferson this error, political as well as commercial, was remedied, and in December, 1788, the abatement of duties on oils was so arranged as to make the American and French on the same footing, and cut off all danger of overstocking from European rivals, and in January, 1789, this arrangement received its legal ratification."

Revival of American Whaling in 1789.—"The revival of the business in the United States, and the growing scarcity of whales in the waters heretofore mostly frequented, made the equipping of larger vessels a necessity, and from the sloops and schooners which formerly composed the greater portion of the whaling fleet an advance was made to brigs and ships and the field still further extended. The sperm whale being of the most value, the effort to encompass his capture was greater; and he was pursued, as he fled from his old haunts, till the Pacific Ocean was attained. At Nantucket the number of vessels soon increased to such an extent that it became necessary to go abroad for men to man them, and some Indians and a large number of negroes were brought from the main-land to aid in filling the crew-lists. Ups and downs the business had then, as it ever has since. A prosumed prosperity induced competition, the markets became glutted, and oil was sold at less than the cost of production. The price of whalebone became reduced to 10 cents per pound and less, instead of commanding a dollar, as it did prior to the Revolution. The disturbances between England and France, and the internal commotions to which the latter country was subjected, effectually annuled the effect of the French arret of 1789. So disastrously did these things affect whaling that the quarrels of France and England forced many Nantucket men to sell their vessels, others to dismantle and lay theirs up, while a few still held on, some making a little profit; the majority suffering a severe loss.

Trouble with France.—"In 1798 came the threats of disturbance between France and the United States. French privateers in the excess of their zeal, preyed upon American commerce as well as upon that of the powers with whom they were in direct conflict. A large number of vessels fell victims to these depredators and the friendly relations existing somewhat precariously between France and the United States became nearly supplanted by a state of actual warfare. The whaling interest as usual, was among the earliest sufferers. Early in 1799 many parties in Nantucket sold their ships rather than fit them out at the risk of capture. News began to reach the island that vessels were already captured, and the business of the islanders, both in fishing and trading, almost ceased. Instead of fitting out a dozen ships for whaling but two or three were fitted, and sadness and gloom shrouded every face. The difficulties were finally adjusted and business resumed its old channels, but the losses which the unfortunate Nantucketers sustained by the unjustifiable, piratical depredations, though settled to the satisfaction of our Government and duly receipted for, with others, by the United States, have never been renumerated, while some of the unlucky owners, officers, and underwriters in comfortable circumstances at the commencement of these troubles, lost their little property, the accumulations of years, and died in poverty. These unauthorized captures were not confined exclusively to the French, for in 1800 the Spanish authorities at Valparaiso, emulating the hostility to a power ostensibly at peace with them which the French had shown, seized and condemned the whale ships Miantonomah, of Norwich, and Tryal, of Nantucket."

The War of 1812 and its Effects on the Whale Fishery.—"From this time till the opening of the second war with England, whaling was pursued with a gradually-augmenting fleet. And this in the face of the uncertainties which the increasingly critical state of affairs between the United States and England occasioned. In 1802 Nantucket added five ships to her fleet, and New London sent her first large vessel, and in 1806 the quantity of oil imported into the country was considerably in excess of the consumption.

"The embargo act of 1807 almost suspended the pursuit, not so much by actual proscription as because of the impossibility of effecting insurance upon the vessels, but it soon received another impetus on account of the prospect of a general peace throughout Europe.

"The commencement of the war of 1812 found a large portion of the whaling fleet at sea. Trusting that the causes of contention between England and America would be removed without the necessity of a final appeal to arms, many owners had fitted out their ships. This was particularly the case at Nantucket, from which port a large proportion of the fleet had sailed for the Pacific Ocean on voyages varying from about two years to two years and a half. With the reception of the news of the declaration of war a large portion of the vessels of the North and South Atlantic, and some of those in the Pacific, turned their prows homeward, hoping to make the home port before the seas swarmed with letters-of-marque and national vessels of war. Many of these vessels from Nantucket, on arriving home sailed thence immediately for Boston, Newport, New Bedford, or some other fortified port, where they could ride out the storm of war in security. After the month of July, 1812, was ushered in, reports of the capture of whaling vessels came thick and fast to Nantucket. First came the news of the taking and burning of the schooner Mount Hope, David Cottle master. In quick succession they learned of the capture of the Alligator, Hope, Manilla, Ocean (brig), Ranger, Fame, Rose, Renown, Sterling, Edward, Gardner, Monticello, Chili, Rebecca, and others, and it may be easily imagined that the prospect for the islanders had but little in it that appeared encouraging. New Bedford, too, al-

(Continued on page 60.)

DYE MARKET

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

The prices current will be found on page 40.

TUESDAY EVENING, July 30, 1889.

Apart from some unusually large sales of cutch and an advance in that commodity there is little of interest to record concerning the dye market. In the general line trading is confined within jobbing limits,buyers showing little anxiety regarding probable future requirements. The tone on the market on the whole is steady and about the same range of quotations is named as at the date of our last issue.

Aniline colors find a steady outlet into consumption on small orders, and prices are steadily maintained.

Alizarine is not wanted to any extent, buyers needs at the moment being limited. There is no change in quotations.

Albumen sells only in a small jobbing way at the previous range of quotations.

Bichromate of potash at the recent reduction meets with no particularly increased attention buyers being content to satisfy their wants as they occur, anticipating no further immediate change in values. We continue to quote 10½@11½c as to quantity and date of delivery.

Cochineal is almost entirely neglected and prices are wholly nominal at the previously quoted range.

Cutch showed considerable activity early in the week, when about half of the stock to arrive and a considerable portion of the spot supply was absorbed. The movement, however, was not general, most of the sales being to one party who was induced by the previously existing low range of values to buy whatever he could before holders took the hint and raised their limits. The reported sales aggregate about 18,000 packages of Diamond S M at a range of 5@5¼c, a considerable portion being at the higher figure. There were also sales of 1,000 bags R B C at the same figures as those paid for the S M. At the close the market was quiet but firm, the general quotations being 5⅜@5½c, as to quantity.

Divi divi is very quiet and prices favor the buyer.

Dyewoods are without fresh feature of interest. For logwood in sticks a moderate demand is noted and we have to report sales of 800 tons part St. Marc and the balance Pt. de Paix at $34. Of Jamaica wood a sale of 250 tons is reported at $25. While not active logwood appears to be in good demand. The stock on hand is being gradually reduced, and there are indications that sellers are not disposed to accept anything less than a full price on further sales. Extracts continue unsettled and some dealers report that there is no bottom to the market, but buyers do not seem disposed to test values and a very quiet trade is reported. In our editorial columns this week the position is discussed at length. The nominal quotations are as follows: Logwood extract, 51° No. 1, 6⅜c; 2, 6c; 3, 5½c. 42° No. 1. 5½c, 2, 5⅛c; 3, 4⅜c. Solid No. 1, 9½c; 2, 8½c; 3, 7¼c, less 2½.

Gambier is firm on the spot, as there is little or no stock here. The steamer France arrived yesterday with 874 bales, but it had all been sold previously to consumers at a range of 6⅞@7c. Since last writing there have been sales of 300 bags from store at 6¾@7c, but there is nothing on the spot below 7c, and for small lots 7¼c is demanded. For stock to arrive by steamer due within two weeks 7c is asked, while later shipments are quoted at 6¾@6⅞c, according to position.

Indigo is not wanted to any extent on the spot, and those consumers who are in need of future supplies are buying direct, their purchases, however, not having any perceptible effect upon the market here. Prices for all kinds are well maintained, in spite of the limited demand.

Nutgalls remain in about the same position at when we last wrote. For China galls a moderate jobbing demand is supplied at the range of 16@16½c while Aleppos bring 15@15½c in a jobbing way, but are not receiving much attention.

Prussiate of potash has a moderate sale in jobbing quantities at previous prices.

Starch is moving fairly on jobbing orders, but no business of consequence is reported in any grade. Values have a steady support, and we find no change to record.

Sumac of the Sicily variety has not received much attention during the week, the only reported transaction being the sale of 500 bags at $62 50@65. For Virginia only a light demand is noted, and we get sales of 100 bags at $46@48.

Improvements in the Manufacture of Starch-, Dextrin-, and Grape-Sugar.

Starch sugar of commerce mostly consists of a mixture of 64—66 per cent. of fermentable sugar, 18—20 per cent. of unfermentable organic matter, and 14—18 per cent. of water, and is considered almost useless for the preparation of wines and liquors and for brewing purposes; moreover, its employment for the manufacture of these products is illegal in Germany, Austro-Hungary, and in France. Although many attempts to obtain a purer product have been made during the last few years, the methods hitherto proposed have been found to be of no practical utility.

Seyberlich and Trampedach have recently worked out a process for preparing pure grape sugar on a commercial scale, which has been patented in most countries. The original experiments were made at the starch-sugar works owned by P. Brandenburg in Riga, 1,000 kilos of air-dried starch being operated upon at a time. The process is, in its essential points, based upon the method devised by Soxhlet (some years since). The patentees consider the purification of starch-sugar by means of methyl alcohol as practiced by Soxhlet impracticable, on the ground of the high price of alcohol and its great volatility; moreover, the expenses incurred in evaporating vast quantities of liquors and the necessity of employing excessive quantities of charcoal, coupled with certain difficulties attending the subsequent crystallization of the sugar, present great obstacles to the successful working of the process. The large consumption of charcoal is brought about by the fact that the saccharification is effected by means of sulphuric acid under pressure, the high temperature to which the mixture is exposed frequently giving rise to the formation of dark-colored products which require the use of excessive quantities of charcoal for the purpose of decolorization. Seyberlich therefore made some trials to determine the effect of other acids. Hydrochloric acid being unsuitable, nitric acid was tried, the result being satisfactory in every respect. The saccharification was conducted in open vessels,one part of starch being mixed with two parts of water, and the mixture treated with 0·5 per cent. of nitric acid on the weight of air dried starch.

For the preparation of the raw sugar the authors propose to make the starchy material into a milk with water, boil with nitric acid neutralize the solution, then render it slightly alkaline, filter, evaporate to 35° B., cool to 18° C., and allow to crystallize in copper pans. The resulting sugar is then subjected to hydraulic pressure, the pressed cakes of raw sugar thus obtained containing 88 per cent. of real sugar, 10 per cent of water and 2 per cent, of impurities. The syrup is concentrated for crystallization, and the final liquoos (molasses) worked up for sugar after removal of the nitric acid and salts by means of sulphurous acid. The raw sugar is refined by dissolving it in water, bringing the solution to a density of 32° B. (measured hot), decolorizing with charcoal (10 per cent. on the weight of raw sugar) at 80°—90°, and filter-pressing. The colorless sugar solution is then allowed to crystallize, and the product freed from the mother liquors by pressing. The solution is concentrated for the purpose of separating a further batch of crystals, whilst the final syrup is mixed with a fresh portion of raw sugar to be refined. By melting the sugar cake and heating to boiling, then adding some crystals of anhydrous grape sugar and allowing the mixture to cool, anhydrous grape sugar is obtained. When this is broken up and sifted a crystallized product resembling cane sugar is obtained. It contains 98 per cent. of sugar and 2 per cent. of water.—*Dingl. Polyt.*

RECENT PATENTS.

406,887. WELDING COMPOUND. Issued July 16, 1889.

Claim.—A welding compound formed of saltpeter, borax, sulphate of zinc, and white flint sand, in about the proportions set forth.

406,952. THIOPARATOLUIDINE. Issued July 1, 1889.

Claim.—The new thioparatoluidine herein described, which is nearly insoluble in boiling alcohol and concentrrted hydrogen chloride infusible at 220° centigrade, combining with fuming sulphuric acid, to form a new sulphonic acid the soda salt of which possesses the property of dying unmordanted cotton yellow in an alkaline bath, substantirlly as described.

407,135. COMPOSITION OF MATTER FOR CEMENT, &c. Issued July 16, 1889.

Claim.—1. The herein-described composition of matter, consisting of acid, a retarder, as glue or oil, a calcined calcareous base, as plaster-of-paris, and silicate of potash or natron, combined substantially in the proportions specified.

2. The herein-described composition of matter, consisting of sulphuric or muriatic acid, an acid retarder, as glue or oil, calcined calcareous base, as plaster-of-paris, silicate of potash, and land-plaster, in about the proportions specified.

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407,182. PROCESS OF REFINING OILS. Issued July 16, 1889.

Claim.—As an improvement in the art of refining oils containing sulphur, the herein-described method, which consists in adding arsenium or its salts to the oil, subjecting the compound to a volatilizing heat, and then condensing the vapors so produced, substantially as set forth.

407,187. GLASS FURNACE. Issued July 16, 1889.

Claim.—1. A glass furnace consisting of a fire box, a batch chamber with a separate front wall from the back wall of the fire box, and a bridge forming a top passage and a lower channel, a pot chamber communicating with said batch chamber by said passage and channel, a stack above said pot chamber, and side chamber leading from top passage to said stack and having valves therein, said parts being combined substantially as and for the purpose set forth.

2. A glass furnace consisting of a fire box, a batch chamber with a bridge having an air space in the same, said bridge forming a top passage and a lower channel, a pot chamber in communication with said passage and channel, and side chambers provided with valves and leading from said top passage to a stack above the said pot chamber, the floor of the lower channel being on a level with the floor of the batch chamber and below that of the pot chamber, and the air space in the bridge being above the lower channel, said parts being combined substantially as described.

407,233. MACHINE FOR STAMPING AND MOLDING SOAP. Issued July 16, 1889.

307,234. MOTOR-ENGINE WORKED BY THE COMBUSTION OF SPRAY OF PETROLEUM. Issued July 16, 1880.

407,240. PHOSPHATIC FERTILIZER. Issued July 16, 1889.

Claim.—A dry granular compound for fertilizers, composed of phosphatic rock or earth containing over ten per cent. of alumina or iron, sulphuric acid and tank-water containing about twenty per cett. of animal matter, combined substantially in the proportions set forth.

407,241. PHOSPHATIC FERTILIZER. Issued July 16, 1889.

Claim.—The dry fertilizing compositio herein described, composed of phosphatic guano or rock from the Cayman Islands, water containing about fifty per cent. of animal matter in excess of sulphuric acid, and sulphate of lime, combined substantially in the proaortions set forth.

407,281. APPARATUS FOR HEATING TAN-LIQUOR. Issued July 16, 1889.

407,367. APPARATUS FOR GENERATING GAS FROM PETROLEUM-OIL. Issued July 16, 1889.

Claim.—In an apparatus for generating gas from petroleum-oil, a retort having a false bottom said false bottom having a book attached to its edge to be used in withdrawing said bottom from the retort, and the bricks, carried by said false bottom adapted to be attached to the same by the residuum from the petroleum-oil, substantially as and for the purpose set forth.

407,442. PROCESS OF OBTAINING METHYL ALCOHOL FROM WOOD PULP LYES. Issued July 23, 1889.

Claim.—1. The process of treating lyes produced in the manufacture of wood pulp, which consists of the following successive steps: First, concentrating said lyes; secondly, mixing the concentrated lyes with charcoal and forming the mass into briquettes; thirdly, roasting the briquettes, and, lastly, condensing the products of distillation, substantially as set forth.

2. In the process of treating lyes produced in the manufacture of wood pulp, the method herein described of regaining the charcoal for further use by lixiviating the same and remixing it with concentrated lyes, substantially as set forth.

407,510. SIZING COMPOUND. Issued July 23, 1889.

Claim.—A sizing compound consisting of beeswax, copal varnish, and thin and thick lithographic varnish, similar to that described in the trade as 00 and No. 5, in the proportions substantially as specified.

407,687. LIVER AND KIDNEY REMEDY. Issued July 23, 1889.

Claim.—The herein described composition of matter to be used for diseases of the kidneys, liver and urinary organs, consisting of fluid extract of buchu, spirits of niter, acetate of potassium, fluid extract of couch grass, fluid extract of juniper berries, and granulated sugar, in substantially the proportions specified.

407,551. LINIMENT. Issued July 23, 1889.

Claim.—The herein described composition of matter, to be used for curing and healing flesh wounds, consisting of spirits of turpentine, olive oil, sulphuric acid, carbolic acid, strained honey and oil of amber, in the proportions specified.

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History and Present Condition of the Whale Fishery.

(Continued from page 57.)

though at this time her interest in this business was far less than that of Nantucket, suffered from the capture of her whaling vessels.

"Again did war put an effectual stop to the pursuit of whaling from every port of the United States save Nantucket, and again were the inhabitants of that town, knowing no business except through their shipping, compelled to strive to carry their commercial marine through the tempest of fire as free from complete destruction as possible. A new source of danger presented itself. Prior to the declaration of war between Great Britain and America our whalemen on the coast of Peru had often suffered from piratical acts of the Peruvian privateers, being continually plundered and cut out from Chilian ports, whither they had gone to recruit. The chronic state of affairs on this coast being one of war, the Government of the United States had sent the Hon. Joel R. Poinsett, of South Carolina, to those parts to see that American commerce was suitably protected, but for several months his remonstrances had been worse than useless. The declaration of war between England and the United States gave the Peruvian corsairs a fresh pretext for the exercise of their plundering propensities. They claimed that they were the allies of England, and as such were entitled to capture the vessels of any power with which she was at war. An expedition was equipped by the authorities of Lima and sent on its marauding way. This army succeeded in capturing the towns of Conception and Talcahuano. In the latter port was a large number of American ships, many of them whalemen, who, having obtained their cargoes of oil, had put in to recruit with provisions and water before making the homeward voyage. Among these were the ships Criterion, Mary Ann, Monticello, Chili, John and James, Lima, Lion, Sukey, Gardner, President, Perseverance, and Atlas, of Nantucket.

"This was in April, 1813. These vessels were detained in the harbor by the Limian armament, which consisted of two men of-war, with about 1,500 troops. Having found a bag containing about $800 on board the President, they carried her captain, Solomon Folger, ashore under a guard and imprisoned the remaining officers and crew, excepting the mate, one boat-steerer, and the cook.

"Learning of this condition of affairs, Poinsett immediately joined the Chilian army and directed its movements. On the 15th of May a battle was fought between the contending forces near the town of San Carlos, but when the day had closed neither side could claim the victory. Taking advantage of the cover of the night, Poinsett put himself at the head of four hundred picked men, with three pieces of light artillery, and, leaving the main body, marched directly to Talcahuano, whither the enemy had withdrawn. The town was immediately carried by storm and the detained whalemen were released. Some of the ships having had their papers destroyed, Poinsett furnished them with consular certificates. The friendly regard for the United States which diplomatic address and persuasion had been unable to obtain, were secured in a much shorter time and probably far more efficaciously by force of arms, and Lima yielded to muskets and cannon the respect she had been unwilling to concede to the seal of the Department of State. Her depredations on American commerce did not, however, entirely cease until the advent of Captain Porter in those waters. Soon after this the United States Government, realizing the defenseless condition of our commerce in the Pacific, dispatched Porter to that locality to protect our interests. Up to the time of the capture of his vessel he had not only done all in his power in this direction, but had effectually destroyed the English whale fishery in those seas, and so turned the tables upon the enemy who had sent out his whale ships well armed and manned to perform the same kindly office toward our whalemen.

"Up to the latter part of the year 1813 the people of Nantucket had fished unmolested both for codfish and for humpback whales on the shoals at the eastward of the island, and by this means eked out a livelihood which was beginning to be quite precarious, but this resort was now taken from them. An English privateer, during the fall, appeared among the fleet, capturing one Nantucket vessel and driving away the remainder. In this dilemma a town meeting was assembled and a petition prepared and forwarded to Congress representing the situation there, and praying that some arrangement might be entered into 'whereby the fisheries may be prosecuted, without being subject to losses by war.' But no adequate relief was afforded, and the people found the history of their sufferings during the Revolution repeating itself with a distressing pertinacity and fidelity, and they bade fair to perish of starvation and cold. They eventually succeeded in obtaining permission to import provisions, but attempts to get leave to sail on whaling voyages, coupled with immunity from capture, were unsuccessful.

The return of peace effected for them the protection that all negotiations had failed to secure. Early in February, 1815, news came to Nantucket that the war was over, and immediately all was hurry and bustle. The wharves, lately so deserted, teemed with life; the ships, lately dismantled, but on their new dress; the faces of the people, lately so disconsolate, were radiant with hope. In May two ships fitted and sailed on their voyages; by the last of June this number was increased to nine; by the 1st of August eighteen had gone, and by the 31st of December over thirty ships, brigs, schooners, and sloops were pursuing the leviathans in the North and South Atlantic, the Indian and Pacific Oceans. On the 9th of July, 1815, the first returning whaling vessel arrived at Nantucket; in all probability this was the first arrival at any port in the United States after the war. This vessel was the sloop Mason's Daughter, which, after a six weeks' voyage, returned with 100 barrels of oil."

STATISTICAL REVIEW OF THE AMERICAN WHALE FISHERY.

The decrease in the number of vessels has been going on since the year 1846, when there were seven hundred and twenty-two vessels, measuring 231,406 tons, in the fleet. Accurate statistics for the period prior to 1840 are wanting. Just before the Revolutionary war a fleet of over three hundred and fifty sail was engaged in this business, but after the war the number was greatly reduced. There was a gradual growth in the fleet from this time until the war of 1812, which proved another disaster to whaling commerce. After the war the business again revived and there was a steady increase in the size of the fleet.

On January 1, 1844, the fleet belonging to the United States numbered six hundred and seventeen vessels, valued at $19,430,000 at the time of sailing, and their entire value at that date, including the catchings at sea, was estimated at $27,784,000. The annual consumption by the fleet for outfits at that time was $3,845,000, and the value of the production of oil and bone in the year 1844 was $7,875,970. In 1846 the fleet of vessels had increased in number to seven hundred and twenty-two, the highest number ever employed in the fishery at one time, and was valued at about $21,000,000. The entire capital invested in the industry and its connections at this time was $70,000,000, and the number of persons deriving from it their chief support was 70,000.

After 1846 there was a rapid decrease till 1850, when the tonnage was 171,484 and the number of vessels was five hundred and thirty-nine, then an increase till 1854, when there were six hundred and fifty-two vessels, measuring 208,-399 tons; from 1854 till the present time the decrease has been almost constant, the tonnage in 1865 being reduced to 79,696 tons, and the vessels to two hundred and seventy-one; in 1875 the decrease was still greater, when there were only one hundred and fifty-two vessels, measuring 37,733 tons, and on the first of January, 1880, the fleet numbered one hundred and seventy-three vessels, of 39,433 tons measurement.

The most valuable production of the fleet was in 1854, when the value of the oil and bone was $10,766,521 20, against $2,056,069 08 in 1879 which was the lowest since 1828, when the production yielded $1,995,181 15. The year ending December 31, 1880, was somewhat more profitable than 1879 because of the success of the Arctic fleet, the yield this year reaching $2,659,725 03.

The largest fleet in the North Pacific and Arctic oceans was in 1846, when two hundred and ninety-two ships were there, and obtained 253,800 barrels of whale oil, averaging 869 barrels to a vessel. The largest quantity of sperm oil was produced in 1837, 5,328,138 gallons, averaging in price $1 24¾ per gallon. The largest quantity of whale oil was produced in 1851, 328,438 barrels, or 10,347,214 gallons, averaging 45 5-16 cents per gallon. The largest quantity of whalebone was produced in 1853, 5,652,300 pounds, averaging 34½ cents (gold) per pound.

THE METHODS OF SAVING THE COMMERCIAL PRODUCTS OF THE WHALE.

The process known to the English as "flensing," to the Americans as "cutting-in," and to the old Nantucketers as "flinching" the whale is the act of removing its oleaginous blanket and transferring it to the vessel; and the process of "trying-out" is the reduction of the blubber to oil.

When the ship-keeper perceives that a capture has been made, he makes sail, if possible, and endeavors to shorten the distance between the vessel and the boats. Meantime every preparation is made to save the blubber. The cutting-spades and boarding-knives are brought on deck, the officers' stages are "slung" over the side of the vessel, the heavy cutting-tackles are sent aloft, and the bulwarks removed in the waist of the ship to make a gangway. The whale is brought alongside the vessel and fastened with its flukes forward to the starboard side with a chain, which is passed around the "small," rove through a port-hole in the bulwarks, and made fast to the bowsprit or a small upright post in the deck, called a "bitt." The whale being thus secured, the order is to "Supper the watch!" or "Dinner the watch!" and immediately after the meal the process of "cutting-in" begins. It is necessary that the blubber should be removed as soon as possible, since it may "blast" on the whale, or in all probability rough weather may set in and delay the work, or it may be desirable to lower the boats for other whales. The men and officers take their proper positions. The first and second officers go into the forward and after cutting stages respectively. The captain, assisted by his first mate, usually decapitates the whale; the second mate "scarfs" or cuts the body blubber; the third mate has charge of the waist of the vessel and of boarding the blubber, in which duties he is assisted by the fourth officer, or perhaps the latter may be with the foremast hands at the windlass; one of the harpooners stands ready to go down upon the whale (that is, if a sperm whale), to manipulate the blubber hook when necessary, and another harpooner has charge of stowing away the blubber between decks. On the quarter-deck the cooper, assisted usually by one of the laziest men on the ship to turn the grindstone, is kept busy sharpening the spades, which are dulled from time to time by striking harpoons in the whale or the bones in cutting off the head. No one is allowed to "cut on the whale" except an officer; it would be a presumption on the part of a foremast hand, at such a time, to go into a cutting stage.

The head of the whale is first cut off, and the process of removing the blubber from the body begins. The manner of decapitating and dissecting the head of a right whale differs somewhat from the method of decapitating a sperm whale. Removing the body blubber, however, has practically no distinguishing features that need to be explained here. In cutting-in a right whale the first officer, with a long-handled spade, makes a "scarf" around the eye and fin. A chain is adjusted about the fin and one of the cutting-tackles is attached to the ring; the men heave at the windlass and literally tear off both the fin and blubber, the former being skillfully unjointed by the officer before the huge cetacean rolls in the water. As the whale revolves upon its axis, a motion imparted by the cutting falls which are manipulated by the men at the windlass, the officer continues to cut the blubber, and the helical strip of blubber is peeled in a continuous piece the entire length of the whale, from the fins to the flukes. As it is hoisted on board it is subdivided into smaller sections, about 14 feet long and 6 feet wide, called "blanket-pieces." The subdivisions are made by the officer who stands in the waist of the vessel, with a long ensiform implement called the boarding-knife, the process being called "boarding the blubber." He severs the immense strip of fat whenever one of the cutting tackles "comes two blocks;" the other tackle is made fast to the blubber before the officer severs it, and when the first tackle lowers the blanket-piece the second tackle "comes two blocks," and another piece is cut off. This alternating process continues until the blubber has been disposed of.

The blanket-pieces are lowered through the main hatch into the blubber-room, where they are subsequently reduced to smaller sections or "horse-pieces." The pieces of flesh and muscles or "lean"—the whaleman's name for the flesh of the whale—which adhere to the inside of the blubber, are removed by the blubber-room gang with sharp knives to prevent the discoloration of oil when boiled. This process is called "leaning." When ready to boil the blubber the "horse-pieces" are pitched upon deck with forks and minced either with hand-knives or machinery. The slices are about half an inch thick, almost as long as the blubber is thick, and resemble great pieces of fat pork. The pieces are called "books" or "bibles," from a fancied resemblance to the leaves of a book. In this condition the blubber is pitched into the try-pots and the oil extracted. The residuum, called "scrap," is used in boiling out the "catch," the fires being first started with wood. Meantime the flukes of the whale are cut off, and at times hoisted on deck and the blubber saved. The carcass is cut adrift, and, surrounded by a school of ravenous sharks and a troop of greedy, garrulous birds, floats away and usually sinks. The head, which had in the first place been detached from the trunk and moored by chains to the vessel, should next be cared for. If the capture is an unusually large sperm whale, the head may be divided into two sections, the "case" and the "junk," and hoisted in separately. Previous to this, however, the lower jaw with the teeth is wrenched from its socket and hoisted in. If a small sperm whale, the entire head may be hoisted in and dissected on deck. The "head-matter" or spermaceti is removed and placed in casks or other receptacles of a similar nature, and the worthless remains are pushed through the gangway into the sea. If a right whale, the upper part of the head, containing the whalebone, is hoisted on deck, and the baleen cut out with spades, cleaned, dried, and bundled for the market. The two lower lips are hoisted in separately and the blubber cut up and boiled. The body oil and head oil of the sperm whale are kept in separate casks and marked "H." and "Sp. O." The oil from all parts of the right whale is barrelled indiscriminately, since there is no difference in the quality. As fast as the oil is cooked it is bailed from the try-pots into a large copper tank called the cooler, whence it is transferred into large casks, lashed to long rails on both sides of the vessel, and kept on deck until cool enough to stow away below. It is then run down into the casks in the hold of the vessel through a flexible pipe. The casks are "chocked off" or braced from each other and from the ship by pieces of wood called "beds," and remain in statu quo unless the hold is broken out to ship the oil by another vessel or when broken out in port.

The time consumed in the process of "cutting-in" depends upon the age of the whale, the condition of the weather, the kind of apparatus and accessories, and the skill and ability of the cutters. Under favorable conditions a small or medium sized whale might be disposed of in five or six hours, and a large one, a "one hundred barreler," perhaps in twelve hours; but in a rough sea the crew may be four or five days in cutting in a whale which, in smooth weather, should be cared for in six or eight hours. Three days is about the average time for boiling out the blubber of a large sperm whale, but this also depends upon the weather, fatness of the cetacean, and size of the pots. Formerly, if a one-hundred barrel whale was captured, cut-in, boiled out, and stowed down in a week, it was regarded fair work, but with the modern appliances the same work should, under favorable circumstances, be accomplished in less time. The blubber of right whales may be boiled out with greater facility than that of sperm whales. Less skill and time is required to cut a right or bowhead whale than a sperm whale; three or four hours being the average, under auspicious circumstances, for cutting one of the first-named species, whose yield would be about 100 barrels. Capt. G. B. Borden tells me he once picked up a bow head whale, whose death was caused by "killers," which he took alongside, cut-in, and boiled out in twenty-one hours, making 140 barrels of oil.

Large ropes were formerly used for fastening the whale to a vessel, but I believe very few of them, if any, are to be found now. Sometimes a large rope may be used when a vessel is towing a whale or in veering out a whale in heavy weather when it would be impossible for her to lay by it. This rope is made of manilla, usually manufactured for the purpose, and varies in size from 7 to 11 inches in circumference. It is slack laid and about the same kind as those carried by the large steamers on Long Island Sound, for instance, and is sometimes stradded to prevent chafing.

BOILING AND STOWING THE OIL.

During the process of boiling out the oil, which includes the preparation of the blubber before cooking, the master has general supervision of the work, but the mate attends to all business that requires active superintendence. Both the officers and men, with the exception of the cooper, stand their regular watches before the try-works day and night. On some vessels the first officer is exempt from such a duty. It is expected that the officers should only superintend the boiling of the oil, but oftentimes they perform as much manual labor as the petty officers.

The boat steerers stand their watches before the works, and if they find time they also rig their boats for another capture.

The men perform the menial duties of the ship. Two in each watch are kept at work in the blubber room preparing the blubber for the mincer. This is the blubber room gang; it is headed by a man in each watch, who is regularly appointed to fill this position during the voyage; his assistant, however, is not regularly appointed, the selection being made from any of the foremast hands composing that watch. If the machine is used for mincing, three or four men may be needed; one to "feed," one to "hook off," or remove the blubber, one to trim the thick pieces of fat, and probably one or two to keep the apparatus in motion. But when the mincing is done by hand, the services of one man in each watch only are required for slicing the fat.

The Arctic ships have watch and watch (six hours each) when boiling. In sperm whaling, on some ships the watches are set, for instance, from 7 A. M. until 11:30 A. M. This gives the forenoon watch below half an hour for dinner; the other watch goes below at 12 M. and is called at 4 P. M. One watch gets supper at 6, and the other at 6:30. At 7 P. M. the watch is set for the night, dividing the time until 7 in the morning. In the morning the watch below is called at 6:30, in order that the men may get breakfast in time to be on deck at 7.

Since the oil cools rapidly in the Arctic regions, the crews under favorable circumstances are enabled to clear their decks much sooner after boiling out than in the southern fishery. Stowing down, boiling out, and the performance of other necessary work required in working the ship, may be carried on simultaneously; one man may be called upon to perform the duties which, in the regular order of things, properly belong to another, but the master, under all circumstances, feeling his responsibility, always satisfies himself that the oil casks are properly stowed away. If the mates in the Provincetown fleet are efficient and trustworthy, the captain devotes very little attention to the process of stowing down, other than to designate such casks as should be filled. The mate has charge of the deck; it is his duty to see that the casks are well swabbed out and free from water; that the oil is sufficiently cool; that no dregs have been transferred from the cooler, and that the work in all details is properly attended to. The second mate usually has entire charge of the hold. One boat steerer bails the oil from the cooler, and one cuts off the oil as fast as the separate casks are filled.

(To be continued.)